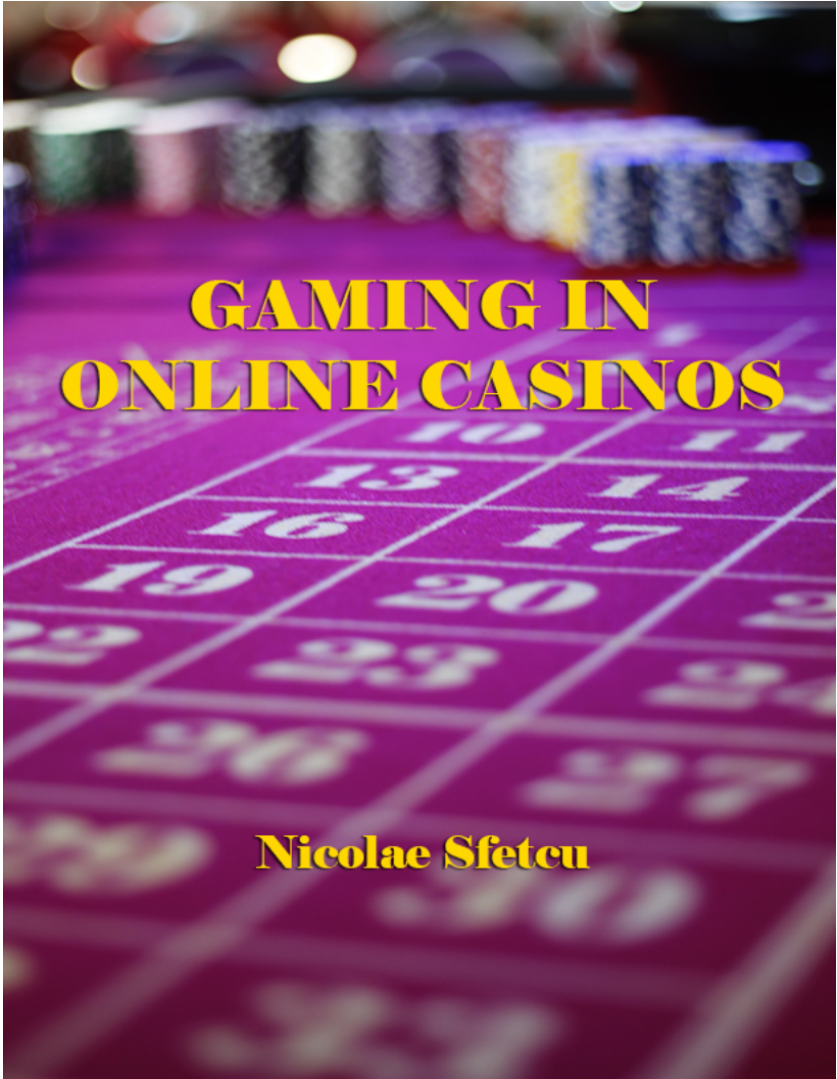




GAMING IN ONLINE CASINOS

Nicolae Sfetcu

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Online casinos, also known as **virtual casinos**, are the online version of land-based ("brick and mortar") [casinos](#). They allow you to play [casino games](#) through the Internet. Some online casinos provide various games, while others only provide only one type of game. [Online poker](#) is also very popular and there are many dedicated companies that provide this activity.

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Gambling

Gambling has had many different meanings depending on the cultural and historical context in which it is used. Currently, in western society, it generally has an economic definition and meaning and typically refers to "wagering money or something of material value on something with an uncertain outcome in hope of winning additional money or material goods". Furthermore:

- the outcome of the wager is typically evident within a short period of time
- the primary intent of the bet is to win additional money or material goods

This definition of gambling usually excludes:

- emotional or physical risk-taking where what is being risked is not money or material goods (e.g., skydiving, running for office, asking someone for a date, etc.)
- buying insurance, as the primary intent of the purchase is to protect against loss, rather than to collect or win
- all forms of long-term 'investment' (stock market, real estate) with positive expected returns and economic utility
- starting a new business, as time and effort are also being wagered and the outcome is not determined in a short period of time
- situations where the possibility of winning additional money or material goods is a secondary or incidental reason for the wager/purchase (e.g., buying a raffle ticket to support a worthy cause)

Gambling varies on four dimensions:

- 1. What is being wagered (money or material goods).
- 2. How much is being wagered.
- 3. The predictability of the event. For some things such as lotteries, slot machines and bingo, the results are random and unpredictable. No skill or system will give you any advantage. For other things such as sports betting and horse racing there is some predictability to the outcome. In this situation greater knowledge and skill gives a person an advantage over other bettors.
- 4. The 'expected value', the positive or negative mathematical expectation.

Legal aspects

Because religious authorities generally frown on gambling to some extent, and because of various perceived social costs, most legal jurisdictions censure gambling to some extent. Islamic nations officially prohibit gambling; most other countries regulate it. In particular, in the majority of circumstances - and perhaps all cases - the law does not recognise wagers as contracts, and views any consequent losses as debts of honour, unenforceable by legal process. Thus organized crime often takes over the enforcement of large gambling debts, sometimes using violent methods.

Because contracts of insurance have many features in common with wagers, legislation generally makes a distinction, typically defining any agreement in which either one of the parties has an interest in the outcome bet upon, beyond the specific financial terms, as a contract of insurance. Thus a bet on whether one's house will burn down becomes a contract of insurance, as one has an independent interest in the security of one's home.

Furthermore, many jurisdictions, local as well as national, either ban or heavily control (*license*) gambling. Such regulation generally leads to gambling tourism and illegal gambling - the latter often under the auspices of organized crime. Such involvement frequently brings the activity under even more severe moral censure and leads to calls for greater regulation. Conversely, the close involvement of governments (through regulation and gambling taxation) has led to a close connection between many governments and gambling organisations, where legal gambling provides much government revenue.

There is generally legislation requesting that the odds in gambling

machines are fair (i.e. statistically random), to prevent manufacturers from making some high-payoff results impossible (since these have very low probability, this can quite easily pass unnoticed).

Psychological aspects

Though many participate in gambling as a form of recreation or even as a means to gain an income, gambling, like any behavior which involves variation in brain chemistry, can become a psychologically addictive and harmful behavior in some people. Reinforcement phenomena may also make gamblers persist in gambling even after repeated losses. Because of the negative connotations of the word "gambling", [casinos](#) and race tracks often use the euphemism "gaming" to describe the recreational gambling activities they offer.

The Russian writer Dostoevsky portrays in his short story *The Gambler* the psychological implications of gambling and how gambling can affect gamblers. He also associates gambling and the idea of "getting rich quick", suggesting that Russians may have a particular affinity for gambling. Dostoevsky shows the effect of betting money for the chance of gaining more in 19th-century Europe. The association between Russians and gambling has fed legends of the origins of Russian roulette.

Help for addictive gamblers

Many organizations exist to help individuals with a gambling [addiction](#). They include Gamblers Anonymous and [Gambler's Help](#)(Australia).

Types of gambling

Casino games

"Beatable" casino games

With proper strategy, a smart player can create a positive mathematical expectation.

- [Poker](#) (Also recognised as a game of skill)
- [Blackjack](#) -- with card counting
- [Video poker](#) -- with proper pay table and/or [progressive jackpot](#)

- [Pai Gow Poker](#) and [Tiles](#) -- player-dealt
- [Sports betting](#)
- [Horse racing \(parimutuel\)](#)
- [Slot machines](#) -- only linked, multi-player jackpots whose prizes have reached a certain point

"Unbeatable" casino games

These have a negative expectation, players as a group will lose in the long run (unless they cheat).

- [Baccarat](#)
- [Craps](#)
- [Roulette](#) (unless physical prediction is used)
- [Keno](#)
- Casino war
- [Faro](#) (All but extinct)
- [Pachinko](#)
- [Sic Bo](#)
- [Let It Ride](#)
- [3-card Poker](#)
- [4-card poker](#)
- [Red Dog](#)
- [Pyramid Poker](#)
- [Caribbean Stud Poker](#)
- [Spanish 21](#) -- without counting

Non-casino gambling games

Lottery
 Mahjong
 Fan-Tan
 Dice-based
 Backgammon
 Liar's dice
 Passe-dix
 Hazard
 Threes
 Card games
 Liar's poker
 Bridge
 Basset
 Lansquenet
 Piquet

Put
Coin-tossing
Head and Tail
Two-up (Australian casinos offer versions of two-up)
Confidence tricks
Three card monte
The shell game
Carnival Games
The Razzle
Hanky Pank
Penny Falls
Six-Cat
The Swinger
The Push-up Bottle
The Nail Joint
Con Games (in bars)
Put and Take
The Smack
The Drunken Mitt

Fixed-odds gambling

Fixed-odds gambling and [Parimutuel betting](#) frequently occur at or on the following kinds of events:

[Horse racing](#) (see below)

Greyhound racing
Jai alai
Football matches (particularly on Association and American football)
Golf
Tennis
Cricket
Baseball
Basketball
Ice hockey
Rugby (League and Union)
Snooker
Motor Racing
Boxing
Darts

In addition many bookmakers offer fixed odds on a number of non-sports related outcomes, for example the direction and extent of movement of various financial indices, whether snow will fall on Christmas Day in a given area, the winner of television competitions such as Big Brother, and so forth. Interactive prediction markets also

offer trading on these outcomes, with "shares" of results trading on an open market.

See *Sports betting* below.

Gambling on horse races

One of the most widespread forms of gambling involves betting on [horse races](#), most commonly on races between thoroughbreds or between standardbreds.

Wagering may take place through [parimutuel](#) pools; or bookmakers may take bets personally. Parimutuel wagers pay off at prices determined by support in the wagering pools, while bookmakers pay off either at the odds offered at the time of accepting the bet; or at the median odds offered by track bookmakers at the time the race started.

In Canada and the United States, the most common types of bet on horse races include:

- **win** – to succeed the bettor must pick the horse which wins the race.
- **place** – the bettor must pick a horse which finishes either first or second.
- **show** – the bettor must pick a horse which finishes first, second, or third.
- **exacta, perfecta, or exactor** – the bettor must pick the two horses which finish first and second and specify which will finish first
- **quinella or quiniela** – the bettor must pick the two horses which finish first and second, but need not specify which will finish first.
- **trifecta or triactor** – the bettor must pick the three horses which finish first, second, and third and specify which will finish first, second and third.
- **superfecta** – the bettor must pick the four horses which finish first, second, third and fourth, and specify which will finish first, second, third and fourth.
- **double** – the bettor must pick the winners of two successive races; most race tracks in Canada and the United States take double wagers on the first two races on the program (the **daily double**) and on the last two (the **late double**).
- **triple** – the bettor must pick the winners of three successive races; many tracks offer **rolling triples**, or triples on any three successive races on the program. Also called **pick three**.
- **sweep** – the bettor must pick the winners of four or more

successive races. In the US, this is usually called **pick four** and **pick six**, with the latter paying out a consolation return to bettors correctly selecting five winners out of six races, and with "rollover" jackpots accumulating each day until one or more bettors correctly picks all six winners.

Win, place and show wagers class as **straight bets**, and the remaining wagers as **exotic bets**. Bettors usually make multiple wagers on exotic bets. A **box** consists of a multiple wager in which punters bet all possible combinations of a group of horses in the same race. A **key** involves making a multiple wager with a single horse in one race bet in one position with all possible combinations of other selected horses in a single race. A **wheel** consists of betting all horses in one race of a bet involving two or more races. For example a 1-all daily double wheel bets the 1-horse in the first race with every horse in the second.

People making straight bets commonly employ the strategy of an 'each way' bet. Here the bettor picks a horse and bets it will win, and makes an additional bet that it will show, so that theoretically if the horse runs third it will at least pay back the two bets. The Canadian and American equivalent is the bet across (short for *across the board*): the bettor bets equal sums on the horse to win, place, and show.

In Canada and the United States punters make exotic wagers on horses running at the same track on the same program. In the United Kingdom bookmakers offer exotic wagers on horses at different tracks. Probably the **Yankee** occurs most commonly: in this the bettor tries to pick the winner of four races. This bet also includes subsidiary wagers on smaller combinations of the chosen horses; for example, if only two of the four horses win, the bettor still collects for their double. A **Trixie** requires trying to pick three winners, and a **Canadian** or **Super Yankee** trying to pick five; these also include subsidiary bets. The term **nap** identifies the best bet of the day.

A **parlay** (US) or **accumulator** (UK) consists of a series of bets in which bettors stake the winnings from one race on the next in order until either the bettor loses or the series completes successfully.

(Similarly, greyhound racing offers a popular betting alternative to horse racing in many countries.)

Sports betting

Betting on team sports has become an important service industry in many countries. For example, millions of Britons play the football pools every week. At sports betting, players may beat the bank.

Most jurisdictions in Canada and the United States regard sports

betting as illegal (Nevada offers full sports betting and the Canadian provinces offer Sport Select - government-run sports parlay betting). However, millions engage in sports betting despite its illegality.

In Canada and the United States the most popular sports bets include:

- against the spread - the bettor wagers either that the favoured team will win by a specified number of points or that it will not. *Giving the points* involves betting the favourite, and *taking the points* means betting the underdog. A team covers the spread if it wins the game with the score modified by the spread. If Dallas and Washington are playing and the spread is (Dallas -7), then Dallas has to win by at least 8 points to cover. Half-point spreads are also possible and the spread may not change.
- against odds - the most popular types of bets against odds comprise simple bets that a team will win and *over-under* (bets on the total points, runs, or goals scored by both teams). In making an over-under bet, the bettor wagers that the total will exceed or fall short of a total specified by the bookmaker.
- against a combination of odds and spread

In sports betting, a **parlay** involves a bet that two or more teams will win. In the United States gamblers have made the parlay card one of the most common forms of sports betting: here bettors wager on the outcomes of two or more games. If all their picks win, they collect. Most such betting occurs in workplaces. A teaser is one type of parlay where the bettor can alter the point spreads on the two games in the bet.

Scratchcards

A scratchcard is a small piece of card where an area has been covered by a substance that cannot be seen through, but can be scratched off. Under this area are concealed the items/pictures that must be 'found' in order to win.

The generic scratchcard requires the player to match three of the same prize amounts. If this is accomplished, they win that amount. Other scratchcards involve matching symbols, pictures or words.

Scratchcards are a very popular form of **gambling** due to their low cost. However, the low cost to buy a scratchcard is offset by the smaller prizes, compared to [casino](#) jackpots or lottery wins.

Other types of betting

One can also bet with another person that a statement is true or false, or that a specified event will happen (a "back bet") or will not happen (a "lay bet") within a specified time. This occurs in particular when two people have opposing but strongly-held views on truth or events. Not only do the parties hope to gain from the bet, they place the bet also to demonstrate their certainty about the issue. Some means of determining the issue at stake must exist. Sometimes the amount bet remains nominal, demonstrating the outcome as one of principle rather than of financial importance.

Arbitrage betting

Arbitrage betting, deceptively advertised as no-risk or risk-free betting, is a special case of betting on events offered by betting websites which is not gambling but rather an unusual investment practice.

Staking systems

Many people have formulated staking systems in an attempt to "beat the bookie", but most still accept that no staking system can make an unprofitable system profitable over time. Widely-used systems include:

- Fixed stakes – a traditional system of staking the same amount on each selection. This method suits conservative punters if the stake remains below 5% of the bank.
- Fixed profits – the stakes vary based on the odds to ensure the same profit from each winning selection. This method suits conservative punters well, although if the profitability of one's bets varies independently of the odds the bettor simply reduces his or her cash flow.
- Due-column betting – A variation on fixed profits betting in which the bettor sets a target profit and then calculates a bet size that will make this profit, adding any losses to the target. For example, to make a target of \$100 profit a bettor would wager \$50 at odds of 2 to 1. If the bet loses, the target becomes \$150. If the next bet is also at odds of 2 to 1, the wager therefore becomes \$75. This type of wagering can prove ruinous in the long run.
- Kelly (optimal) – the punter needs to estimate fair odds (in the European/decimal format) and then calculate the stake using :

Stake = $(\text{Odds}/(\text{Fair odds}-1))/(\text{Odds}-1)$ Many times used with a divider (most commonly 4 or 8) depending on your bankroll (for betting)

- Martingale – A system based on staking enough each time to recover losses from previous bet(s) until one wins. It is usually applied to even-money bets such as red/black on [roulette](#). The Martingale guarantees failure in the long run - it would only work if the bettor has an unlimited bankroll, the bookmaker has no limit on the size of bets and neither party ever dies. However, it can usually be used to gain a small win in the short run, given a bankroll large enough to survive a streak of five or six losses.

List of notable wagers

The man who broke the bank at Monte Carlo

Pascal's wager

St. Petersburg paradox

The wager in Around the World in Eighty Days

Wager between John Pierpoint Morgan and Hugh Cecil Lowther, 5th Earl of Lonsdale on whether a man could walk round the world and remain unidentified

Wager between Julian Simon and Paul Ehrlich on commodity prices

The annual Nenana Ice Classic, when the inhabitants of Alaska bet on when the ice will break on the Tanana River.

Wager on Black hole information paradox: Stephen Hawking and Kip Thorne against John Preskill

Associated word usage

- The English expression "I bet that xxxxx", meaning "I consider it very probable that xxxxx", need not carry any suggestion of the speaker intending to gamble.
- The English word hazard originated as Arabic *az-zr* or *al-zr*, which meant a type of [dice](#) game. Compare also the English word "dicey" meaning "risky".
- Scientists have dubbed certain random-number-based calculation algorithms the "Monte Carlo method".
- **Even money**, as a gambling term, describes a wagering proposition with even odds - in other words, if one loses a bet, one stands to lose the same amount of money that the winner of

the bet would win (less, of course, the vigorish or "juice"). The term has come to have meaning in the wider English usage beyond actual gambling, however, as a way of describing an event whose occurrence is about as likely to occur as not, as in "It's even money that it will rain today". Compare *50 50*.

See also

- [pathological gambling](#)
- [compulsive gambling](#)
- [Casino](#)
- [online gambling](#)
- [Online casino](#)
- [casino game](#)
- [Casino Night](#)
- [casino token](#)
- [bet exchange](#)
- [spread betting](#)

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[Card Games](#) | [Dice](#) | [Online Gambling](#) | [Compulsive Gambling](#)

Card Games

A **card game** is any game using [playing cards](#), either traditional or game-specific.

Seating of players

When a card game is played, the players arrange themselves in a circle around a horizontal surface on which the cards will be played. This surface is usually a table, although any flat surface can be used. The players face inwards, and are approximately evenly spaced (so that they cannot see each other's hand of cards).

The pack or deck

A card game is played with a pack of cards intended for that game. The pack consists of a fixed number of pieces of printed cardboard known as *cards*. The cards in a pack are identical in size and shape. Each card has two sides, the *face* and the *back*. The backs of the cards in a pack are indistinguishable. The faces of the cards in a pack may all be unique, or may include duplicates, depending on the game. In either case, any card is readily identifiable by its face.

The set of cards that make up the pack will be known to all of the players using that pack.

Pack is British English; *deck* is U.S. English. They mean the same thing.

However, there are some card games that require multiple decks. In this scenario, a "deck" refers to a set of 52 cards or a single deck, while a "pack" refers to the collection of "decks" as a whole.

The deal

Dealing is done either clockwise or counterclockwise. If this is omitted from the rules, then it should be assumed to be:

- clockwise for games from North America, North and West Europe and Russia;
- counterclockwise for South and East Europe and Asia, also for Swiss games and all Tarot games.

A player is chosen to deal. That person takes all of the cards in the pack, stacks them together so that they are all the same way up and the same way round, and shuffles them. There are various techniques of shuffling, all intended to put the cards into a random order. During the shuffle, dealer holds the cards so that she and the other players cannot see any of their faces.

Shuffling should continue until the chance of a card remaining

next to the one that was originally next to is small. In practice, many dealers do not shuffle for long enough to achieve this.

After the shuffle, the dealer offers the deck to another player to *cut the deck*. If the deal is clockwise, this is the player on her right; if counter-clockwise, it is the player on her left. The invitation to cut is made by placing the pack, face downward, on the table near the player who is to cut: who then lifts the upper portion of the pack clear of the lower portion and places it alongside. The formerly lower portion is then replaced on top of the formerly upper portion.

The dealer then *deals* the cards. This is done by dealer holding the pack, face-down, in one hand, and removing cards from the top of it with her other hand to distribute to the players, placing them face-down on the table in front of the players to whom they are dealt. The rules of the game will specify the details of the deal. It normally starts with the players next to the dealer in the direction of play (left in a clockwise game; right in an anticlockwise one), and continues in the same direction around the table. The cards may be dealt one at a time, or in groups. Unless the rules specify otherwise, assume that the cards are dealt one at a time. Unless the rules specify otherwise, assume that all the cards are dealt out; but in many games, some remain undealt, and are left face down in the middle of the table, forming the talon, skat, or stock. The player who received the first card from the deal may be known as eldest hand, or as forehand.

The set of cards dealt to a player is known as his or her *hand*.

Throughout the shuffle, cut, and deal, the dealer should arrange that the players are unable to see the faces of any of the cards. The players should not try to see any of the faces. Should a card accidentally become exposed (visible to all), then normally any player can demand a redeal - that is, all the cards are gathered up, and the shuffle, cut and deal are repeated. Should a player accidentally see a card (other than one dealt to herself) she should admit this.

It is dishonest to try to see cards as they are dealt, or to take advantage of having seen a card accidentally.

When the deal is complete, all players pick up their cards and hold them in such a way that the faces can be seen by the holder of the cards but not the other players. It is helpful to fan one's cards out so that (if they have corner indices) all their values can be seen at once. In most games it is also useful to sort one's hand, rearranging the cards in a way appropriate to the game. For example in a trick taking game it is easier to have all one's cards of the same suit together, whereas in a rummy game one might sort them by rank or by potential combinations.

The rules

A new card game starts in a small way, either as someone's invention, or as a modification of an existing game. Those playing it may agree to change the rules as they wish. The rules that they agree on become the "house rules" under which they play the game. A set of house rules may be accepted as valid by a group of players wherever they play. It may also be accepted as governing all play within a particular house, café, or club.

When a game becomes sufficiently popular, so that people often play it with strangers, there is a need for a generally accepted set of rules. This is often met by a particular set of house rules becoming generally recognised. For example, when whist became popular in 18th-century England, players in the Portland Club agreed on a set of house rules for use on its premises. Players in some other clubs then agreed to follow the "Portland Club" rules, rather than go to the trouble of codifying and printing their own sets of rules. The Portland Club rules eventually became generally accepted throughout England.

There is nothing "official" about this process. If you decide to play whist seriously, it would be sensible to learn the Portland Club rules, so that you can play with other people who already know these rules. But if you only play whist with your family, you are likely to ignore these rules, and just use what rules you choose. And if you play whist seriously with a group of friends, you are still perfectly free to devise your own set of rules, should you want to.

It is sometimes said that the "official" or "correct" sets of rules governing a card game are those "in Hoyle". Edmond Hoyle was an 18th-century Englishman who published a number of books about card games. His books were popular, especially his treatise on how to become a good whist player. After (and even before) his death, many publishers have taken advantage of his popularity by placing his name on their books of rules. The presence of his name on a rule book has no significance at all. The rules given in the book may be no more than the opinion of the author.

If there is a sense in which a card game can have an "official" set of rules, it is when that card game has an "official" governing body. For example, the rules of tournament bridge are governed by the World Bridge Federation, and by local bodies in various countries such as the ACBL in the USA, and the EBU in England. The rules of skat in Germany are governed by the Deutsche Skatverband which publishes the *Skatordnung*. The rules of French tarot are governed by the Fédération Française de Tarot. But there is no compulsion to follow the rules put out by these organisations. If you and your friends decide

to play a game by a set of rules unknown to the game's official body, you are doing nothing illegal.

Many widely-played card games have no official regulating body. An example is Canasta.

Rule infractions

An infraction is any action which is against the rules of the game, such as playing a card when it is not one's turn to play and the accidental exposure of a card.

In many official sets of rules for card games, the rules specifying the penalties for various infractions occupy more pages than the rules specifying how to play correctly. This is tedious, but necessary for games that are played seriously. Players who intend to play a card game at a high level generally ensure before beginning that all agree on the penalties to be used. When playing privately, this will normally be a question of agreeing house rules. In a tournament there will probably be a tournament director who will enforce the rules when required and arbitrate in cases of doubt.

If a player breaks the rules of a game deliberately, this is cheating. Most card players would refuse to play cards with a known cheat. The rest of this section is therefore about accidental infractions, caused by ignorance, clumsiness, inattention, etc.

As the same game is played repeatedly among a group of players, precedents build up about how a particular infraction of the rules should be handled. E.G. "Sheila just led a card when it wasn't her turn. Last week when Jo did that, we agreed ... etc.". Sets of such precedents tend to become established among groups of players, and to be regarded as part of the house rules. Sets of house rules become formalised, as described in the previous section. Therefore, for some games, there is a "proper" way of handling infractions of the rules. But for many games, without governing bodies, there is no standard way of handling infractions.

In many circumstances, there is no need for special rules dealing with what happens after an infraction. As a general principle, the person who broke a rule should not benefit by it, and the other players should not lose by it. An exception to this may be made in games with fixed partnerships, in which it may be felt that the partner(s) of the person who broke a rule should also not benefit. The penalty for an accidental infraction should be as mild as reasonable, consistent with there being no possible benefit to the person responsible.

Types of card games

Trick-taking games

See also trick-taking games

500

Cassino

Bridge

Écarté

Euchre

Hearts

Pinochle

Piquet

ROOK

Spades

Sixty-three

Sueca (game)

Whist

Wizard

Pairs(u/c)

Rummy-style games

500 Rum

Canasta

Concentration

Durak

Five Crowns

Gin rummy

Go Fish

Haihowak

Happy Families

Jolly

Kemps

Robbers' rummy

Seven Bridge

Shanghai rum

Spoons/donkey

Tonk

Tri

Wyatt Earp

Steal the old man's pack

Casino or gambling card games

See also *[casino](#)* or *[gambling](#)*

- [Baccarat](#)
- [Bingo](#)
- [Blackjack](#)
- Blind Hookey
- Bouré
- Cribbage
- [Poker](#)
- Primero
- [Red dog](#)
- Texas hold 'em
- Thirty-one
- Three card brag

Solitaire (or *Patience*) games

Ace of the Pile
Baker's Dozen (solitaire)
Calculation
Concentration
FreeCell
Kings in the Corner (multi-player)
Klondike
Russian Bank
Solitaire Showdown

Shedding games

Bartok / Bartog
Bullshit
California Speed
Chase the Ace/Old Maid
Craits
Crazy Eights
Eleusis
Mao
President
Shichi Narabe
Shithead
Spit / Speed

Spite and Malice
Tien len
UNO

Accumulating games

Beggar-My-Neighbour
Egyptian Ratscrew
Seven Spades
Slapjack
Snap
Top Trumps
War

Miscellaneous playing card games

Sevens

Multi-genre games

Eleusis
Poke
Skitgubbe
Tichu
Tripoli

Collectible card games (CCG's)

Duelmasters
Magic: The Gathering
Pokémon
Yu-Gi-Oh! Trading Card Game

Other card games

1000 Blank White Cards
Blitz
Bohnanza
Chez Geek
Chrononauts
Flinch
Fluxx

GOLF
Gother Than Thou
Grass
Hanafuda
Illuminati
Karuta
Lucky Seven
Mille Bournes
Munchkin
Mus
Numero
Pens
Pit
Pits
Scopa
Scopone
Set
Sheepshead
LeCardo

Fictional card games

Cripple Mr Onion - from the Discworld book series
Diamondback - from the Cerebus comics
Double Fanucci - from the Zork series
Dragon Poker - from the MythAdventures novels
Fizzbin - from the original Star Trek
Pazzak - from the Knights of the Old Republic video game
Pyramid - from the Battlestar Galactica series
Sabacc - from the Star Wars universe
Tall Card - from the Firefly television series
Triple Triad - from the Final Fantasy VIII video game

See also

- [Playing card](#)

[Playing Card](#)

Playing Card

A **playing card** is a typically hand-sized rectangular (in India,

round) piece of heavy paper or thin plastic used for playing card games. A complete set of cards is a pack or deck. Playing cards are often used as props in magic tricks, as well as occult practices such as cartomancy, and a number of card games involve (or can be used to support) [gambling](#). As a result, their use sometimes meets with disapproval from some religious groups (such as conservative Christians). They are also a popular collectible (as distinct from the cards made specifically for collectible trading card games). Specialty and novelty decks are commonly produced for collectors, often with political, cultural, or educational themes. One side of each card (the "front" or "face") carries markings that distinguish it from the others and determine its use under the rules of the particular game being played, while the other side (the "back") is identical for all cards, usually a plain color or abstract design. In most games, the cards are assembled into a "deck" (or "pack"), and their order is randomized by a procedure called "shuffling" to provide an element of chance in the game.

History

Early history

The origin of playing cards is obscure, but it is almost certain that they began in China after the invention of paper. Ancient Chinese "money cards" have four "suits": coins (or cash), strings of coins (which may have been misinterpreted as sticks from crude drawings), myriads of strings, and tens of myriads. These were represented by ideograms, with numerals of 2-9 in the first three suits and numerals 1-9 in the "tens of myriads". Wilkinson suggests in *The Chinese origin of playing cards* that the first cards may have been actual paper currency which were both the tools of gaming and the stakes being played for. The designs on modern Mahjong tiles and dominoes likely evolved from those earliest playing cards. The Chinese word *p'ai* is used to describe both paper cards and gaming tiles.

The time and manner of the introduction of cards into Europe are matters of dispute. The 38th canon of the council of Worcester (1240) is often quoted as evidence of cards having been known in England in the middle of the 13th century; but the games *de rege et regina* there mentioned are now thought to more likely have been chess. If cards were generally known in Europe as early as 1278, it is very remarkable that Petrarch, in his dialogue that treats gaming, never once mentions them. Boccaccio, Chaucer and other writers of that time specifically refer to various games, but there is not a single

passage in their works that can be fairly construed to refer to cards. Passages have been quoted from various works, of or relative to this period, but modern research leads to the supposition that the word rendered cards has often been mistranslated or interpolated.

It is likely that the ancestors of modern cards arrived in Europe from the Mamelukes of Egypt in the late 1300s, by which time they had already assumed a form very close to those in use today. In particular, the Mameluke deck contained 52 cards comprising four "suits": polo sticks, coins, swords, and cups. Each suit contained ten "spot" cards (cards identified by the number of suit symbols or "pips" they show) and three "court" cards named malik (King), n'ib malik (Viceroy or Deputy King), and thn+ n'ib (Second or Under-Deputy). The Mameluke court cards showed abstract designs not depicting persons (at least not in any surviving specimens) though they did bear the names of military officers. A complete pack of Mameluke playing cards was discovered by L.A. Mayer in the Topkapi Sarayi Museum, Istanbul, in 1939; this particular complete pack was not made before 1400, but the complete deck allowed matching to a private fragment dated to the twelfth or thirteenth century. There is some evidence to suggest that this deck may have evolved from an earlier 48-card deck that had only two court cards per suit, and some further evidence to suggest that earlier Chinese cards brought to Europe may have travelled to Persia, which then influenced the Mameluke and other Egyptian cards of the time before their reappearance in Europe.

It is not known whether these cards influenced the design of the Indian cards used for the game of Ganjifa, or whether the Indian cards may have influenced these. Regardless, the Indian cards have many distinctive features: they are round, generally hand painted with intricate designs, and comprise more than four suits (often as many as twelve).

Spread across Europe and early design changes

In the late 1300s, the use of playing cards spread rapidly across Europe. The first widely accepted references to cards are in 1371 in Spain, in 1377 in Switzerland, and, in 1380, they are referenced in many locations including Florence, Paris, and Barcelona. A Paris ordinance dated 1369 does not mention cards; its 1377 update includes cards. In the account-books of Johanna, duchess of Brabant, and her husband, Wenceslaus of Luxemburg, there is an entry dated May 14, 1379 as follows: "Given to Monsieur and Madame four peters, two forms, value eight and a half moutons, wherewith to buy a pack of cards". An early mention of a distinct series of playing cards is the entry of Charles or Charbot Poupart, treasurer of the household of

Charles VI of France, in his book of accounts for 1392 or 1393, which records payment for the painting of three sets or packs of cards, which were evidently already well known.

It is clear that the earliest cards were executed by hand, like those designed for Charles VI. However, this was quite expensive, so other means were needed to mass-produce them. It is possible that the art of wood engraving, which led to the art of printing, developed because of the demand for implements of play. If the assumption is true that the cards of that period were printed from wood blocks, the early card makers or cardpainters of Ulm, Nuremberg, and Augsburg, from about 1418 to 1450, were most likely also wood engravers.

Many early woodcuts were colored using a stencil, so it would seem that the art of depicting and coloring figures by means of stencil plates was well known when wood engraving was first introduced. No playing cards engraved on wood exist whose creation can be confirmed as early 1423 (the earliest-dated wood engraving generally accepted). However, in this period professional card makers were established in Germany, so it is probable that wood engraving was employed to produce cuts for sacred subjects before it was applied to cards, and that there were hand-painted and stencilled cards before there were wood engravings of saints. The German *Brief maler* or card-painter probably progressed into the wood engraver; but there is no proof that the earliest wood engravers were the card-makers.

The Europeans experimented with the structure of playing cards, particularly in the 1400s. Europeans changed the court cards to represent European royalty and attendants, originally "king", "chevalier", and "knave" (or "servant"). Queens were introduced in a number of different ways. In an early surviving German pack (dated in the 1440s), Queens replace Kings in two of the suits as the highest card. Throughout the 1400s, 56-card decks containing a King, Queen, Knight, and Valet were common. Suits also varied; many makers saw no need to have a standard set of names for the suits, so early decks often had different suit names (though typically 4 suits). The cards manufactured by German printers used the suits of hearts, bells, leaves, and acorns still present in Eastern and Southeastern German decks today used for Skat and other games. Later Italian and Spanish cards of the 15th century used swords, batons, cups, and coins. It is likely that the Tarot deck was invented in Italy at that time, though it is often mistakenly believed to have been imported into Europe by Gypsies. While originally (and still in some places, notably Europe) used for the game of Tarocchi, the Tarot deck today is more often used for cartomancy and other occult practices. This probably came about in the 1780s, when occult philosophers mistakenly associated the symbols on Tarot cards with Egyptian hieroglyphs.

The four suits (hearts, diamonds, spades, clubs) now used in most of the world originated in France, approximately in 1480. These suits have generally prevailed because decks using them could be made more cheaply; the former suits were all drawings which had to be reproduced by woodcuts, but the French suits could be made by stencil. The *trèfle*, so named for its resemblance to the trefoil leaf, was probably copied from the acorn; the *pique* similarly from the leaf of the German suits, while its name derived from the sword of the Italian suits. It is not derived from its resemblance to a pike head, as commonly supposed. In England the French suits were used, and are named hearts, clubs (corresponding to *trèfle*, the French symbol being joined to the Italian name, *bastoni*), spades (corresponding to the French *pique*, but having the Italian name, spade=sword) and diamonds. This confusion of names and symbols is accounted for by Chatto thus:

"If cards were actually known in Italy and Spain in the latter part of the 14th century, it is not unlikely that the game was introduced into this country by some of the English soldiers who had served under Hawkwood and other free captains in the wars of Italy and Spain. However this may be, it seems certain that the earliest cards commonly used in this country were of the same kind, with respect to the marks of the suits, as those used in Italy and Spain."

Court cards have likewise undergone some changes in design and name. Early court cards were elaborate full-length figures; the French in particular often gave them the names of particular heroes and heroines from history and fable. A prolific manufacturing center in the 1500s was Rouen, which originated many of the basic design elements of court cards still present in modern decks. It is likely that the Rouennais cards were popular imports in England, establishing their design as standard there, though other designs became more popular in Europe (particularly in France, where the Parisian design became standard). Rouen courts are traditionally named as follows: the kings of spades, hearts, diamonds, and clubs are David, Alexander, Caesar, and Charles (Charlemagne), respectively. The knaves (or "jacks"; French "valet") are Hector (prince of Troy), La Hire (comrade-in-arms to Joan of Arc), Ogier (a knight of Charlemagne), and Judas Maccabeus (who led the Jewish rebellion against the Syrians). The queens are Pallas (warrior goddess; equivalent to the Greek Athena or Roman Minerva), Rachel (biblical mother of Joseph), Argine (the origin of which is obscure; it is an anagram of regina, which is Latin for queen), and Judith (from Book of Judith). Parisian tradition uses the same names, but assigns them to different suits: the kings of spades, hearts, diamonds, and clubs are David, Charles, Caesar, and

Alexander; the queens are Pallas, Judith, Rachel, and Argine; the knaves are Ogier, La Hire, Hector, and Judas Maccabee. Oddly, the Parisian names have become more common in modern use, even with cards of Rouennais design.

Later design changes

In early games the kings were *always* the highest card in their suit. However, as early as the late 1400s special significance began to be placed on the nominally lowest card, now called the Ace, so that it sometimes became the highest card and the Two, or Deuce, the lowest. This concept may have been hastened in the late 1700s by the French Revolution, where games began being played "ace high" as a symbol of lower classes rising in power above the royalty. The term "Ace" itself comes from a dicing term in Anglo-Norman language, which is itself derived from the Latin *as* (the smallest unit of coinage). Another dicing term, *trey* (3), sometimes shows up in playing card games.

Corner and edge indices appeared in the mid-1800s, which enabled people to hold their cards close together in a fan with one hand (instead of the two hands previously used). Before this time, the lowest court card in an English deck was officially termed the *Knave*, but its abbreviation ("Kn") was too similar to the King ("K"). However, from the 1600s on the Knave had often been termed the *Jack*, a term borrowed from the game All Fours where the Knave of trumps is termed the Jack. All Fours was considered a low-class game, so the use of the term Jack at one time was considered vulgar. The use of indices changed the formal name of the lowest court card to Jack.

This was followed by the innovation of reversible court cards. Reversible court cards meant that players would not be tempted to make upside-down court cards right side up. Before this, other players could often get a hint of what other players' hands contained by watching them reverse their cards. This innovation required abandoning some of the design elements of the earlier full-length courts.

The joker is an American innovation. Created for the Alsatian game of Euchre, it spread to Europe from America along with the spread of [Poker](#). Although the joker card often bears the image of a fool, which is one of the images of the Tarot deck, it is not believed that there is any relation. In contemporary decks, one of the two jokers is often more colorful or more intricately detailed than the other, though this feature is not used in most card games. The two jokers are often differentiated as "Big" and "Little," or more commonly, "Red" and "Black." In many card games the jokers are not used. Unlike

face cards, the design of jokers varies widely. Many manufacturers use them to carry trademark designs.

In the twentieth century, a means for coating cards with plastic was invented, and has taken over the market, producing a durable product. An example of what the old cardboard product was like is documented in Buster Keaton's silent comedy *The Navigator*, in which the forlorn comic tries to shuffle and play cards during a rainstorm.

Alleged symbolism

Popular legend holds that the composition of a deck of cards has religious, metaphysical or astronomical significance: typical numerological elements of the explanation are that the four suits represent the four seasons, the 13 cards per suit are the 13 phases of the lunar cycle, black and red are for day and night, and finally, if the value of each card is added up - and 1 is added, which is generally explained away as being for a single joker - the result is 365, the number of days in a year. The context for these stories is sometimes given to suggest that the interpretation is a joke, generally being the purported explanation given by someone caught with a deck of cards in order to suggest that their intended purpose was not [gambling](#) (Urban Legends Reference Pages article).

Playing cards today

Anglo-American

The primary deck of fifty-two playing cards in use today, called **Anglo-American playing cards**, includes thirteen ranks of each of the four English suits, spades (**♠**), hearts (**♥**), diamonds (**♦**) and clubs (**♣**), with reversible Rouennais court cards. Each suit includes an ace, depicting a single symbol of its suit; a king, queen, and jack, each depicted with a symbol of its suit; and ranks two through ten, with each card depicting that many symbols (*pips*) of its suit. Two (sometimes one or four) Jokers, often distinguishable with one being more colorful than the other, are included in commercial decks but many games require one or both to be removed before play. Modern playing cards carry index labels on opposite corners (rarely, all four corners) to facilitate identifying the cards when they overlap.

The fanciful design and manufacturer's logo commonly displayed on the Ace of Spades began under the reign of James I of England, who passed a law requiring an insignia on that card as proof of

payment of a tax on local manufacture of cards. Until August 4, 1960, decks of playing cards printed and sold in the United Kingdom were liable for taxable duty and the Ace of Spades carried an indication of the name of the printer and the fact that taxation had been paid on the cards. The packs were also sealed with a government duty wrapper.

Though specific design elements of the court cards are rarely used in game play, a few are notable. The jack of spades and jack of hearts are drawn in profile, while the rest of the courts are shown in full face (the exception being the King of Diamonds), leading to the former being called the "one-eyed" jacks. When deciding which cards are to be made wild in some games, the phrase, "acey, deucey, one-eyed jack," is sometimes used, which means that aces, twos, and the one-eyed jacks are all wild. Another such variation, "deuces, aces, one-eyed faces," is used to indicate aces, twos, the jack of hearts, the jack of spades, and the king of hearts are wild. The king of hearts is shown with a sword behind his head, leading to the nickname "suicide king". The King of Diamonds is armed with an ax while the other three kings are armed with swords. The king of Diamonds is sometimes referred to as "the man with the ax" because of this. The Ace of Spades, unique in its large, ornate spade, is sometimes said to be the death card, and in some games is used as a trump card. The Queen of Spades appears to hold a scepter and is sometimes known as "the bedpost queen."

There are theories about who the court cards represent. For example, the Queen of Hearts is believed by some to be a representation of Elizabeth of York - the Queen consort of King Henry VII of England. However the Kings, Queens and Jacks of standard Anglo/American cards do not represent anyone. They stem from designs produced in Rouen before 1516 and by 1540-67 these Rouen designs show well-executed pictures in the court cards with the typical court costumes of the time. In these early cards the Jack of Spades, Jack of Hearts and the King of Diamonds are shown from the rear, with their heads turned back over the shoulder so that they are seen in profile. However the Rouen cards were so badly copied in England that the current designs are gross distortions of the originals.

Other oddities such as the lack of a moustache on the King of Hearts also have little significance. The King Of Hearts did originally have a moustache but it was lost by poor copying of the original design. Similarly the objects carried by the court cards have no significance. They merely differentiate one court card from another and have also become distorted over time.

The most common sizes for playing cards are poker size ($2\frac{1}{2}in \times 3\frac{1}{2}in$, approx. $63mm \times 88mm$) and bridge size ($2\frac{1}{4}in \times 3\frac{1}{2}in$, approx. $56mm \times 87mm$), the latter being more suitable for games such as

bridge in which a large number of cards must be held concealed in a player's hand. Interestingly, in most casino poker games, the bridge sized card is used. Other sizes are also available, such as a smaller size (usually 1½in × 2½in, approx. 44mm × 66mm) for solitaire and larger ones for card tricks.

Some decks include additional design elements. [Casino blackjack](#) decks may include markings intended for a machine to check the ranks of cards, or shifts in rank location to allow a manual check via inlaid mirror. Many casino decks and solitaire decks have four indices instead of the usual two. Many decks have large indices, largely for use in stud poker games, where being able to read cards from a distance is a benefit and hand sizes are small. Some decks use four colors for the suits in order to make it easier to tell them apart: the most common set of colors is black (spades ♠), red (hearts ♥), blue (diamonds ♦) and green (clubs ♣).

When giving the full written name of a specific card, the rank is given first followed by the suit, e.g., "Ace of Spades". Shorthand notation may list the rank first "A" (as is typical when discussing [poker](#)) or list the suit first (as is typical in listing several cards in bridge) "AKQ". Tens may be either abbreviated to T or written as 10.

German and Austrian

German and Austrian suits may have different appearances. Many southern Germans and Austrians prefer decks with hearts, bells, leaves, and acorns (for hearts, diamonds, spades, and clubs), as mentioned above. In the game Skat, Eastern Germany players used the German deck, while players in western Germany mainly used the French deck. After the reunification a compromise deck was created, with French symbols, but German colors. Therefore, many "French" decks in Germany now have yellow or orange diamonds and green spades.

example Old German playing cards as produced by Altenburger Spielkartenfabrik

Hungarian

The Hungarian Card was born in the times before the 1848-49 Hungarian Freedom Fights, when revolutionary movements were awakening all over in Europe. It is a 32 card deck, its four colors include hearts, bells, leaves and acorns. The numbering includes VII, VIII, IX, X, Under, Over, King and Ace. The Aces show the four seasons: spring, summer, autumn and winter. The characters of the Under and

Over cards were taken from the drama, William Tell, written by Schiller in 1804, that was shown at Kolozsvár in 1827. It was long believed that the card was invented in Vienna at the Card Painting Workshop of Piatnik Ferdinand, however in 1974 the very first deck was found in an English Private Collection, and it has shown the name of the inventor and creator of deck as Schneider József, a Master Card Painter at Pest, and the date of its creation as 1837. Interesting that he have chosen the characters of a Swiss drama as his characters for his over and under cards, however if he would have chosen Hungarian heroes or freedom fighters, his deck of cards would have never made it into distribution, due to the heavy censorship of the government at the time.

Games that are played with this deck including Ulti, Snapszer (or 66), Zsirozas, Preferansz and Lorum. Explanations of these games can be found at The Card Games Website.

Italian

Italian playing cards most commonly consist of a deck of 40 cards. Hundreds of different designs are in use in different parts of the country (about one per province). The suits are coins (sometimes suns or sunbursts), swords, cups and clubs (sometimes batons), and each suit contains an ace (or one), numbers two through seven, and three face cards. The face cards are:

- King - a man standing, wearing a crown
- Knight - a man sitting on a horse
- Jack - a younger man standing, without a crown

Unlike Anglo-American cards, Italian cards do not have any numbers (or letters) identifying their value. The cards' value is determined by identifying the face card or counting the number of suit characters.

Example: "Triestine" playing cards manufactured by Modiano

Spanish

The traditional Spanish deck (referred to as *baraja española* in Spanish) is a direct descendant of the Tarot deck. However, like most other decks derived from it, the Spanish deck kept only the minor arcana (with the exception of the 10s and the queen of each suit, which were dropped), while all of the major arcana from the Tarot deck were discarded. Being a Latin-suited deck (like the Italian deck), it is organized into four *palos* (suits) that closely match those of the

Tarot deck: *oros* ("golds" or coins, *cf.* the Tarot suit of pentacles), *copas* (cups), *espadas* (swords) and *bastos* (batons or clubs, *cf.* the Tarot suit of wands). Apart from its characteristic icon, each suit can also be identified by a pattern of interruptions in the horizontal sections of the quadrangular line that frames each card (this pattern is known as *la pinta*): none for *oros*, one for *copas*, two for *espadas* and three for *bastos*.

The cards (*naipes* or *cartas* in Spanish) are all numbered, but unlike in the standard Anglo-French deck, the card numbered 10 is the first of the court cards (instead of a card depicting ten coins/cups/swords/batons); so each suit has only twelve cards. The three court or face cards in each suit are as follows: *la sota* ("the knave", jack or page, numbered 10 and equivalent to the Anglo-French card J), *el caballo* ("the horse", horseman, knight or cavalier, numbered 11 and used instead of the Anglo-French card Q; note the original Tarot deck has both a cavalier and a queen of each suit, while the Anglo-French deck dropped the former, and the Spanish deck dropped the latter), and finally *el rey* ("the king", numbered 12 and equivalent to the Anglo-French card K). Many Spanish games involve forty-card decks, with the 8s and 9s removed.

The Spanish deck is used not only in Spain, but also in other countries where Spain maintained an influence (e.g., the Philippines and Puerto Rico) 1. Among the games played with this deck are: *el mus* (a very popular and highly regarded vying game of Basque origin), *la brisca*, *el tute* (with many variations), *el guiñote*, *la escoba* (a trick-taking game), *el julepe*, *el cinquillo*, *las siete y media*, *la mona*, *el truc* (or *truco*), and *el cuajo* (a matching game from the Philippines).

Japanese

The standard 54-card deck is also commonly known as a poker deck or—in Japan—a Trump deck, to differentiate it from "dedicated" card games such as UNO ,or other dynamic card decks like Hanafuda and Kabufuda.

Playing card symbols in Unicode

The Unicode standard defines 8 characters for card suits in the Miscellaneous Symbols block, from U + 2660 to U + 2667:

U+2660 <i>dec: 9824</i>	U+2661 <i>dec: 9825</i>	U+2662 <i>dec: 9826</i>	U+2663 <i>dec: 9827</i>
♠	♥	♦	♣
BLACK SPADE SUIT	WHITE HEART SUIT	WHITE DIAMOND SUIT	BLACK CLUB SUIT
♠ ♠ ♠	♡ ♡	♢ ♢	♣ ♣ ♣
U+2664 <i>dec: 9828</i>	U+2665 <i>dec: 9829</i>	U+2666 <i>dec: 9830</i>	U+2667 <i>dec: 9831</i>
♠	♥	♦	♣
WHITE SPADE SUIT	BLACK HEART SUIT	BLACK DIAMOND SUIT	WHITE CLUB SUIT
♤ ♤	♥ ♥ ♥	♦ ♦ ♦	♧ ♧

Reference

- Parlett, David. *The Oxford Guide to Card Games*. 1990. ISBN 0-19-214165-1.

Card magicians and gambling authorities

aladin

Allan Ackerman

Michael Ammar

David Blaine

Mike Caro

Daryl

Alex Elmsley

S. W. Erdnase

Lennart Green

Brother John Hamman

Guy Hollingworth

Ricky Jay

Larry Jennings

René Lavand

Ed Marlo

Jeff McBride

Darwin Ortiz

John Scarne

Juan Tamariz

Dai Vernon

See also

- [Card game](#)
-

Dice

A **die** (Old French *de*, from Latin *datum* "something given or played") is a small polyhedral object (usually a cube) suitable as a [gambling](#) device (especially for [craps](#) or [sic bo](#)).

Traditionally, a die is seldom seen alone, rather than as one of a pair of identical **dice** that are sized to be comfortably rolled or thrown, together, from a user's hand. (The singular word "die" is therefore rare, and treating "dice" as interchangeably singular or plural is not uncommon.) A traditional die is a cube (often with corners slightly rounded), marked on each of its six faces with a different number of circular patches or pits called pips. All of these pips have the same appearance within a pair (or larger set) of dice, and are sized for ease of recognizing the pattern the pips on one face form. The design as a whole is aimed at each die providing one randomly determined integer, in the range from one to six, with each of those values being equally likely.

More generally, a variety of analogous devices are often described as dice, but necessarily in a context, or with a word or two preceding "die" or "dice", that avoids the assumption that traditional dice are intended. Such specialized dice may have cubical or other polyhedral shapes, with faces marked with various collections of symbols, and be used to produce other random results than one through six. There are also "loaded" or "crooked" dice (especially otherwise traditional ones), meant to produce skewed or even predictable results, for purposes of deception or amusement.

Ordinary dice

The most common dice are small cubes 1 to 2 cm along an edge, whose faces are numbered from one to six (usually by patterns of dots called pips). It is traditional to assign pairs of numbers that total seven to opposite faces (it has been since at least classical antiquity); this

implies that at one vertex the faces 1, 2 and 3 intersect. It leaves one other abstract design choice: the faces representing 1, 2 and 3 respectively can be placed in either clockwise or anti-clockwise order about this vertex.

Dice are thrown to provide (supposedly uniformly distributed) random numbers for [gambling](#) and other games and thus are a type of hardware random number generator. However, because the numbers on toy dice are marked with small indentations, slightly more material is removed from the higher numbered faces. This results in a small bias, and they do not provide fair (uniform) random numbers. Casino dice have markings that are flush with the surface and come very close to providing true uniformly distributed random numbers.

Dice are thrown, singly or in groups, from the hand or from a cup or box designed for the purpose, onto a flat surface. The face of each die that is uppermost when it comes to rest provides the value of the throw. A typical dice game today is [craps](#), wherein two dice are thrown at a time, and wagers are made on the total value of up-facing spots on the two dice. They are also frequently used to randomize allowable moves in board games such as Backgammon.

Terms

While the terms *ace*, *deuce*, *trey*, *cater*, *cinque* and *six* are hardly common today having been replaced with one, two, three, four, five, and six they are still used by some professional gamblers to describe the different sides of the dice.

Probability

For a single roll, the probability of rolling each value, 1 through 6, is exactly 1 in 6. For a double roll, however, the total of both rolls is not evenly distributed, but is distributed in a triangular curve, as follows:

Total of Dice	2	3	4	5	6	7	8	9	10	11	12
Probability	1/36	2/36	3/36	4/36	5/36	6/36	5/36	4/36	3/36	2/36	1/36

For the total of rolls of three or more dice, the curve becomes more bell-shaped with each additional die (according to the central limit theorem).

The probability of rolling the same random number repeatedly goes down by $1/6$ with each additional die:

No. of Dice	2	3	4	5
Probability	$\frac{1}{6}$	$\frac{1}{36}$	$\frac{1}{216}$	$\frac{1}{1296}$

The above list only applies, if the number you want to throw multiple times in a row, is randomly chosen. If you want to throw a chosen number more than once in a row, the probability is lower:

No. of Dice	2*'X'	3*'X'	4*'X'	5*'X'
Probability	$\frac{1}{36}$	$\frac{1}{216}$	$\frac{1}{1296}$	$\frac{1}{7776}$

History

Dice probably evolved from the ankle bones of hoofed animals (such as oxen), colloquially known as "knucklebones", which are approximately tetrahedral. Even today, dice are sometimes colloquially referred to as "bones", as in "shake them bones". Ivory, bone, wood, metal, and stone materials have been commonly used, though the use of plastics is now nearly universal. It is almost impossible to trace clearly the development of dice as distinguished from knucklebones, because ancient writers confused the two games. It is certain, however, that both were played in prehistoric times.

The fact that dice have been used throughout the Orient from time immemorial, as has been proved by excavations from ancient tombs, seems to point clearly to an Asiatic origin. Dicing is mentioned as an Indian game in the Rig-veda. In its primitive form knucklebones was essentially a game of skill played by women and children. In a derivative form of knucklebones, the four sides of the bones received different values and were counted as with modern dice. Gambling with three or sometimes two dice was a very popular form of amusement in Greece, especially with the upper classes, and was an almost invariable accompaniment to banquets (*symposia*).

The Romans were passionate gamblers, especially in the luxurious days of the Roman Empire, and dicing was a favourite form, though it was forbidden except during the Saturnalia. Horace derided what he presented as a typical youth of the period, who wasted his time amid the dangers of dicing instead of taming his charger and giving himself up to the hardships of the chase. Throwing dice for money was the cause of many special laws in Rome. One of these stated that no suit could be brought by a person who allowed gambling in his house,

even if he had been cheated or assaulted. Professional gamblers were common, and some of their loaded dice are preserved in museums. The common public-houses were the resorts of gamblers, and a fresco is extant showing two quarrelling dicers being ejected by the indignant host.

Tacitus states that the Germans were passionately fond of dicing, so much so, indeed, that, having lost everything, they would even stake their personal liberty. Centuries later, during the middle ages, dicing became the favourite pastime of the knights, and both dicing schools and guilds of dicers existed. After the downfall of feudalism the famous German mercenaries called *landsknechts* established a reputation as the most notorious dicing gamblers of their time. Many of the dice of the period were curiously carved in the images of men and beasts. In France both knights and ladies were given to dicing. This persisted through repeated legislation, including interdictions on the part of St. Louis in 1254 and 1256.

In Japan, China, Korea, India, and other Asiatic countries, dice have always been popular and are so still. The markings on Chinese dominoes evolved from the markings on dice, taken two at a time.

Loaded dice

A **loaded or gaffed die** is a die that has been tampered with to land with a selected side facing upwards more often than it would simply by chance. There are methods of creating loaded dice, including having some edges round and other sharp and slightly off square faces. If the dice are not transparent, weights can be added to one side or the other. They can be modified to produce winners ("passers") or losers ("miss-outs"). "Tappers" have a drop of mercury in a reservoir at the center of the cube, with a capillary tube leading to another mercury reservoir at the side of the cube. The load is activated by tapping the die on the table so that the mercury leaves the center and travels to the side. Often one can see the circle of the cut used to remove the face and bury the weight. In a professional die, the weight is inserted in manufacture; in the case of a wooden die, this can be done by carving the die around a heavy inclusion, like a pebble around which a tree has grown.

A variable loaded die is hollow with a small weight and a semi-solid substance inside, usually wax, whose melting point is just lower than the temperature of the human body. This allows the cheater to change the loading of the die by breathing on it or holding it firmly in hand, causing the wax to melt and the weight to drift down, making the chosen opposite face more likely to land up. A less common type of variable die can be made by inserting a magnet into the die and

embedding a coil of wire in the game table. Then, either leave the current off and let the die roll unchanged or run current through the coil to increase the likelihood that the north side or the south side will land on the bottom depending on the direction of the current.

Transparent acetate dice, used in all reputable [casinos](#), are harder to tamper with.

Materials

It is unknown of what material the earliest polyhedral dice were made. A pair of icosahedral (20-sided) dice dating from Roman times are on display at the British Museum. It is possible that polyhedral dice were used by even earlier cultures.

Precision casino dice, used for the game of [craps](#), are made from cellulose acetate. These dice may have a polished finish, making them transparent, or a sand finish, making them translucent. While red is the most common color, they are also seen in casinos in green, amber, blue, or other colors. Casino dice have their pips drilled, and then filled flush with a paint of the same specific gravity as the acetate, such that the dice remain in perfect balance. In casino play, a stick of 5 dice are used, all stamped with a matching serial number to prevent a cheat from substituting a die.

Polyhedral dice are usually made of plastic, though infrequently metal, wooden, and semi-precious stone dice can be found. Early polyhedral dice were made of a soft plastic that would easily wear as the die was used. Typical wear and tear would gradually round the corners and edges of the die until it was unusable. Modern polyhedral dice are typically made of high-impact plastic and can withstand years of use without visible wear. Lou Zocchi and his company Gamescience not only always guaranteed that their high-impact plastic dice would not wear down the way other companies' dice did, but for years criticized major dice manufacturers for crafting unfair, loaded dice through sloppy polishing techniques and substandard materials.

Polyhedral dice can be purchased at most hobby stores in numerous combinations. In the early days of role-playing games, most dice came with the numbers unpainted and players took great care in painting their sets of dice. Many early dice came with two sides with the numbers zero through nine on them; half of the sides had to be painted a contrasting color to signify the "high" side.

Cubical dice with faces representing values other than digits 1 through 6

As noted, the faces of most dice are labelled to using an unbroken series of whole numbers, starting at one (or zero), expressed with either pips or digits. Common exceptions include:

- colour dice (e.g., with the colours of the playing pieces used in a game)
- **Poker** dice, with the following labels somewhat reminiscent of the names of standard **playing cards**:
 - Nine (of spades; black)
 - Ten (of diamonds; red)
 - Jack (blue)
 - Queen (blue)
 - King (red)
 - Ace (of clubs; black)
- dice with letters (e.g. in Boggle)
- doubling dice (2, 4, 8, 16, 32, 64)
- average dice (2, 3, 3, 4, 4, 5)
- cheat dice, such as:
 - one face each with two through five, and two with sixes, or
 - for **craps**, a pair of dice in which one die has five on each face, and its mate has a mixture of twos and sixes, guaranteeing rolls of seven or 11
- so-called "3-sided dice", each a cubical die with each of its faces marked identically to exactly one of the other faces, yielding three equally likely distinguishable outcomes, for example:
 - those (usually abbreviated *d3*) in some role-playing games, labelled 1, 2, and 3 respectively, or
 - *FUDGE dice*, with two minus (−) sides, two blank sides, and two plus (+) sides; a throw of n fudge dice yields an integer from n to n , by reading "−" as "1" and "+" as "+1" and summing the faces showing.
- random direction dice also known as scatter dice. The dice have arrows on each side, the outcome of a roll is a random direction. Scatter dice are used in tabletop wargames such as Warhammer Fantasy Battle to determine random movements of troops, wind direction or direction of misfired arms.

Non-cubical dice

Polyhedral dice are **dice** with more or fewer than six sides. They were once almost exclusively used by fortune-tellers and in other occult practices, but they have become popular lately among players

of wargames, trading card games, German-style board games, and role-playing games. Although polyhedral dice are a relative novelty during modern times, some ancient cultures appear to have used them in games (as evidenced by the presence of two icosahedral dice dating from the days of ancient Rome on display in the British Museum). Such dice are typically plastic, and have faces bearing numerals rather than patterns of dots. Reciprocally symmetric numerals are distinguished with a dot in the lower right corner (6. vs 9.) or by being underlined (6 vs 9).

Dice with various numbers of faces are often described by their numbers of sides, with a $d6$ being a six-sided die, a $d10$ a ten-sided die, and so forth. When more than one die is used, the standard terminology is to have two numbers separated by the 'd' - *Number of Dice 'd' Number of sides on each die*. Hence $2d6$ is simply Two Six-Sided Dice, suitable for games of Monopoly or [Craps](#).

The platonic solids are commonly used to make dice of 4, 6, 8, 12, and 20 faces. Other shapes can be found to make dice with 5, 7, 10, 16, 24, 30, 34, 50, or 100 sides, but other than the 10 sided, they are rarely used. (See *Zocchihedron*.)

A large number of different probability distributions can be obtained using these dice in various ways; for example, 10-sided dice (or 20-sided dice labeled with single digits) are often used in pairs to produce a linearly-distributed random percentage. Summing multiple dice approximates a normal distribution (a "bell curve"), while eliminating high or low throws can be used to skew the distribution in various ways. Using these techniques, games can closely approximate the real probability distributions of the events they simulate.

There is some controversy over whether manufacturing processes create genuinely "fair" dice (dice that roll with even distributions over their number span). [Casino](#) dice are legally required to be fair; those used by all others hold no such requirement.

Spherical dice also exist; these function like the plain cubic dice, but have an octahedral internal cavity in which a weight moves which causes them to settle in one of six orientations when rolled.

Cowry shells or coins may be used as a kind of two-sided dice (" $d2$ "). (Because of their shape, cowry shells probably do not yield a uniform distribution.)

Standard variations

The most common non-cubical dice — often sold in sets of five or six that are each differently shaped but with the same pair of background and marking colors — include one each of the five Platonic solids, which are highly symmetrical. The six-die versions add

the pentagonal trapezohedron, in which the faces (identical to one another as to angles and edge lengths) each have two different lengths of side, and three different sizes of angle; the corners at which multiple faces meet are also of two different kinds.

Type - Shape - Platonic? - Notes

d4 - tetrahedron - Yes - Each face has three numbers: they are arranged such that the upright number (which counts) is the same on all three visible faces. Alternatively, all of the sides have same number in the lowest edge and no number on the top. This die does not roll well and thus it is usually thrown into the air instead.

d6 - cube - Yes - A common die. The sum of the numbers on opposite faces is seven.

d8 - octahedron - Yes - Each face is triangular; looks something like two Egyptian pyramids attached at the base.

d10 - pentagonal trapezohedron - No - Each face is kite-shaped; five of them meet at the same sharp corner (as at the top of the diagram in this row), and five at another equally sharp one; about halfway between them, a different group of three faces converges at each of ten blunter corners. The ten faces usually bear numbers from zero to nine, rather than one to ten, and often all odd numbered faces converge at the same sharp corner, and the even ones at the other.

d12 - dodecahedron - Yes - Each face is a regular pentagon.

d20 - icosahedron - Yes Faces are equilateral triangles. Typically, opposite faces add to twenty-one.

Rarer variations

Type - Shape - Notes

d2 - cylinder - A d2 is not really a die, and is nothing more than a plastic coin with 1 marked on one side and 2 on the other. While some tasks in roleplaying require flipping a coin, it is usually referred to as such, and not as rolling a d2. It is possible, however, to find d2's of this sort for purchase, but they are rare, and can typically be found among other joke dice. More frequently, "d2" is rolled by rolling 1d6 with odd-numbered results representing "1" and even-numbered results representing "2".

d3 - Triangular prism - An extremely rare type of die, the d3 is essentially a rounded-off triangular prism, intended to be rolled like a rolling-pin style die. The die is rounded-off at the edges to make it impossible for it to somehow land on the triangular sides, which makes it look a bit like a jewel. When the die is rolled one edge (rather than a side) appears facing upwards. On either side of each edge the same number is printed (from 1 to 3). The numbers on either side of the up-facing edge are read as the result of the die roll. In addition to this type of "true" d3 it is also possible to find six-sided dice which just repeat the numbers from 1 to 3 twice. This type of die is just as fair, easier to roll, and much more common than "true" d3's.

d7 - Pentagonal prism - A rare die type, thick enough to land either on its "edge" or "face". When landing on an edge, the topmost edge has pips for 1–5. The pentagonal faces are labeled with the digits 6 and 7. Such dice are used in a seven-player variant of backgammon. Some variants have heptagonal ends and rectangular faces. The faces are labeled 1 through 7.

d12 - rhombic dodecahedron - Each face is in the shape of a rhombus.

d16 - octagonal dipyramid - Each face is in the shape of an isosceles triangle.

d24 - tetrakis hexahedron - Each face is in the shape of an isosceles triangle.

d24 - deltoidal icositetrahedron - Each face is in the shape of a geometric kite.

d30 - rhombic triacontahedron - Each face is in the shape of a rhombus (diamond-shaped).

d100 d% - Zocchihedron - This name is a trademark; true d100s are rare, and they are often nicknamed death stars due to a passing resemblance to the *Star Wars* structure. Two d10s can substitute for a d100, especially if one has sides labeled 00, 10, 20, ... 90. Use of this die, (or a replacement such as two different-colored d10s with there being a convention among players as to which of them will count as "tens" and which as "ones") is referred to as a percentile roll (d%).

The full geometric set of "uniform fair dice" (with all congruent sides) are:

- Platonic solids: 5 regular polyhedra: (4, 6, 8, 12, 20 sides)

- Catalan solids: 13 Archimedean duals: (12, 24, 30, 48, 60, 120 sides)
- Bipyramids: infinite set of prism duals, triangle faces: (6, 8, 10, 12, ... sides)
- Trapezohedrons: infinite set of antiprism duals, kite faces: (6, 8, 10, 12, ... sides)

Often the names of the dice appear in formulas for calculating game parameters: e.g., hit points. '6d8 + 10', for example, will yield a number between 16 ($6 \times 1 + 10$) and 58 ($6 \times 8 + 10$), as it means 'Roll an eight-sided die six times and add ten to the total of all the rolls'. Occasionally they may be written '10 × d6 + 20' or '1d6 × 10 + 20'; this means 'roll one six-sided die. Multiply it by ten and add twenty', and avoids boring repetitive dice-rolling at the expense of reducing the number of possible results (i.e., 30, 40, 50, 60, 70, and 80 are the only possible outcomes) compared to rolling the die 10 times (yielding any number between 30 and 80).

Application in role-playing games

The fantasy role-playing game *Dungeons & Dragons* introduced the use of polyhedral dice during modern times and paved the way for their use in other role-playing games, using 20, 12, 10, 8 and 4 sided dice in addition to the traditional 6 sided die.

Players use polyhedral dice together in a number of ways. For example, often a d10 is used in conjunction with a d6 instead of using a d20. If the d6 displays a 1, 2 or 3, the number on the d10 is resolved as 1–10. If the d6 displays a 4, 5 or 6, the number shown on the d10 is resolved to 11–20 ("1" is 11, "2" is 12, etc.). In cases like this, almost any sided die can be used as a "resolver".

Two d10 are often used to generate a number between 1 and 100. When tossing these dice, the player indicates which die is "high" (representing the tens position).

Use of Dice for Divination

Some people believe that dice can be used for divination. Using dice for such a purpose is called cleromancy. A pair of standard 6-sided dice is generally used.

Astrological dice are a specialized set of three 12-sided dice for divination, using the concepts of astrology and containing astrological symbols for the planets, the zodiac signs and the astrological houses. The first die represents planets, the Sun, the Moon, and two nodes

(North Node and South Node). The second die represents the 12 zodiac signs, and the third represents the 12 houses. In simplified terms, the planets, etc. could represent the 'actor'; the zodiac signs could represent the 'role' being played by the actor; and the house could represent the 'scene' in which the actor plays.

Rune dice are a specialized set of dice for divination (runecasting), using the symbols of the runes printed on the dice.

See also

- [Craps](#) - on the casino game.

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Online Gambling

Online gambling takes several forms. This article provides a brief introduction to some of those, as well as discussing general issues.

Online poker

Main article: [online poker](#)

There are a large number of online poker rooms which offer various games of [Poker](#), most commonly Texas hold 'em, but also Omaha, Seven-card stud, and other game types. Players play against each other, with the "house" making its money through the "rake".

Online casinos

Main article: [online casino](#)

There are a large number of [online casinos](#), in which people can play [casino games](#) such as [Roulette](#), [Blackjack](#), [Craps](#), and many others. These games are played against the "house", which makes money due to the fact that the odds are slightly in its favour. Some unscrupulous sites have been proven to offer rigged games, which are less mathematically fair than they appear.

Online betting

Several major bookmakers offer fixed-odds gambling over the internet, with gamblers typically betting on the results of sporting events.

A relatively new internet innovation is the [bet exchange](#), which allows individuals to place bets with each other (with the "house" taking a small commission).

Funds transfers

Typically, gamblers upload funds to the online gambling company, make bets or play the games that it offers, and then cash out any winnings. European gamblers can often fund gambling accounts by [credit card](#) or [debit card](#), and cash out winnings directly back to the card.

Because of the questionable legality of online gambling in the United States, however, U.S. credit cards frequently fail to be accepted. However, a number of intermediary companies - such as Firepay, [Neteller](#), and [Moneybookers](#) - offer accounts with which (among other things) online gambling can be funded. Casino operators and online poker rooms often offer incentives for using these 'alternative payment methods'.

Payment by [cheque](#) and [wire transfer](#) is also common.

General legal issues

Online gambling is legal and regulated in many countries including the United Kingdom and several nations in and around the Caribbean Sea.

While the United States Federal Appeals Courts has ruled that the Federal Wire Act prohibits electronic transmission of information for sports betting across state lines, there is no law prohibiting gambling of any other kind [1].

However, some states have specific laws against online gambling of any kind. Also, owning an online gaming operation without proper licensing would be illegal, and no states are currently granting online gaming licenses.

The government of the island nation of Antigua and Barbuda, which licenses Internet gambling entities, made a complaint to the World Trade Organization about the U.S. government's actions to impede online gaming. The Caribbean country won the preliminary ruling but WTO's appeals body has partially reversed that favorable ruling in April, 2005. The appeals decision effectively allowed state laws prohibiting gambling in Louisiana, Massachusetts, South Dakota and Utah. However, the appeals panel also ruled that the United States may be violating global trade rules because its laws regulating horse-racing bets were not applied equitably to foreign and domestic online betting companies. The panel also held that certain online gambling restrictions imposed under US federal laws were inconsistent with the trade body's GATS services agreement.

In March 2003, Deputy Assistant Attorney General John G. Malcolm testified before the Senate Banking Committee regarding the special problems presented by online gambling [2]. A major concern of the United States Department of Justice is online money laundering. The anonymous nature of the Internet and the use of encryption make it especially difficult to trace online money laundering transactions.

In April 2004 Google and Yahoo!, the internet's two largest search engines, announced that they were removing online gambling advertising from their sites. The move followed a United States Department of Justice announcement that, in what some say is a contradiction of the Appeals Court ruling, the Wire Act relating to telephone betting applies to all forms of Internet gambling, and that any advertising of such gambling "may" be deemed as aiding and abetting. Critics of the Justice Department's move say that it has no legal basis for pressuring companies to remove advertisements and that the advertisements are protected by the First Amendment. As of April 2005, Yahoo! has provided advertising for "play money" online gaming.

In February 2005 the North Dakota House of Representatives passed a bill to legalize and regulate online poker and online poker cardroom operators in the State. Testifying before the State Senate, the CEO of one online cardroom, Paradise Poker, pledged to relocate to the state if the bill became law. However, the measure was defeated

by the State Senate in March 2005. Jim Kasper, the Representative who sponsored the bill, plans a 2006 ballot initiative on the topic.

Problem gambling

Because the internet brings gambling right into a player's home, there is concern that online gambling increases the level of [problem gambling](#). In the United States, the link between availability and problem gambling was investigated in 1999 by the National Gambling Impact Study, which found that "the presence of a gambling facility within 50 miles roughly doubles the prevalence of problem and pathological gamblers". If this finding is correct, it is reasonable to expect that easy access to gambling online would also increase problem gambling.

That same report noted the possibility that "the high-speed instant gratification of Internet games and the high level of privacy they offer may exacerbate problem and pathological gambling". Bernie Horn, of the National Coalition Against Legalized Gambling, testified before Congress that the availability of online gambling "magnifies the potential destructiveness of the addiction".

[Computer Game Bot](#)

Computer Game Bot

A **bot**, most prominently in the first person shooter PC game types (FPS), is a roBOTic computer controlled entity that simulates an online or LAN multiplayer human deathmatch, team deathmatch opponent or a cooperative human player. Computer game bots work via artificial intelligence routines pre-programmed to suit the game map, game rules, game type and other parameters unique to each game. Bots are not only found in FPS PC games; they are also featured in several console games.

Usage

Bots can help a PC gamer learn the gameplay environment and the game rules as well as help them practice shooting accuracy and gaming skills before going online to compete with other human players in a multiplayer environment. Some PC gamers prefer to play exclusively with bots rather than human opponents – especially in the case of those who have slow dial-up internet connections and thus

may be unable to play online. In this respect, bots help create a longer interest in the game. Most bots use existing 3d models, textures and sound of the games or mods.

Some single-player games were released initially without multiplayer components and bots were created or added later on by fans and enthusiasts in the modding community.

Bots are usually written in C or C++ as stand-alone, completely independent applications or plugins or just dynamic link libraries (dll) for an existing game engine. Some authors also write some applications with which the bots' behavior, skills and other characteristics can be created or modified, such as Bot Studio for Quake III Arena.

Bot types

Bots can be either static or dynamic.

Static bots are designed to follow pre-made waypoints or pathnodes for each level or map. These bots need to have a unique waypoint file for each map, or a pathnode system embedded in the map, if they are to function. For example, Quake 3 Arena bots use an AAS (area awareness system) file to move around the map, while Counter-Strike bots use a WPT (waypoint) file. Unreal Tournament's series bots use an embedded pathnode system in the map to navigate.

Dynamic bots, on the other hand, dynamically learn the levels and maps as they play. RealBot, for *Counter-Strike*, is an example. Some bots are designed using both static and dynamic features.

Some bots are designed to help a player advance levels in repetitive skills; however, the use of such bots is often against the rules on MMORPGs.

Some well-known bots

Botman's bot, HPB_bot for Half-Life.

Elite Force bot for Star Trek: Elite Force II

FrogBot, Reaper Bot (which was the very first computer bot) for Quake

OpenKore and ReveMU for Ragnarok Online

POD bot or the official CS bot by Turtle Rock Studios for Counter-Strike and CS: Source

Rune bot for Rune

ShrikeBot and SturmBot for Day of Defeat (DoD)

StormTrooper Bot for Quake III Arena

Tactical Ops bot for Tactical Ops: Assault on Terror
Wolfbot for Return to Castle Wolfenstein.
WoW!Sharp for World of Warcraft

Games with built in bots

Battlefield 1942
Battlefield 2
Battlefield Vietnam
Counter-Strike: Condition Zero
Counter-Strike: Source
Max Payne 2: The Fall of Max Payne
Pariah
Perfect Dark (in which they are known as "Simulants")
Quake III Arena
Red Faction
Red Faction 2
Soldier of Fortune
Star Trek: Voyager Elite Force
Star Trek: Elite Force II
Star Wars Jedi Knight II: Jedi Outcast
Star Wars Jedi Knight: Jedi Academy
Starsiege: Tribes
SWAT 3: Close Quarters Battle
Tribes 2
Unreal
Unreal Tournament
Unreal Tournament 2003
Unreal Tournament 2004

Compulsive Gambling

Compulsive gambling is an urge or addiction to [gamble](#) despite harmful negative consequences or a desire to stop. A preferred term among many professionals is **problem gambling**, as few people described by the term experience true compulsions in the clinical sense of the word. Problem gambling often is defined by whether harm is experienced by the gambler or others rather than by the gambler's behavior. Severe problem gambling may be diagnosed as clinical **pathological gambling** if the gambler meets certain criteria.

Pathological gambling

Extreme cases of problem gambling may cross over into the realm of mental disorders. Pathological gambling was recognized as a psychiatric disorder in the DSM-III, but the criteria were significantly reworked based on large-scale studies and statistical methods for the DSM-IV. Pathological gambling is now defined as persistent and recurrent maladaptive gambling behavior meeting at least five of the following criteria, as long as these behaviors are not better explained by a manic episode:

1. Preoccupation. The subject has frequent thoughts about gambling experiences, whether past, future, or fantasy.
2. Tolerance. As with drug tolerance, the subject requires larger or more frequent wagers to experience the same "rush."
3. Withdrawal. Restlessness or irritability associated with attempts to cease or reduce gambling.
4. Escape. Subject gambles to improve mood or escape problems.
5. Chasing. Subject attempts to win back gambling losses with more gambling.
6. Lying. Subject attempts to hide the extent of his or her gambling by lying to family, friends, or therapists.
7. Loss of control. Subject has unsuccessfully attempted to reduce gambling.
8. Illegal acts. Subject has broken the law in order to obtain gambling money or recover gambling losses.
9. Risked significant relationship. The subject gambles despite risking or losing a relationship, job, or other significant opportunity.
10. Bailout. Subject turns to family, friends, or another third party for financial assistance as a result of gambling.

As with many disorders, the DSM-IV definition of pathological gambling is widely accepted and used as a basis for research and clinical practice internationally.

Incidence

According to the National Council on Problem Gambling, incidence of problem gambling is 2-3% and pathological gambling is 1% in the United States, though this may vary by country. By contrast, 86% of Americans have gambled in their lives and 60% gamble in a given year.

Available research seems to indicate that problem gambling is an internal tendency, and that problem gamblers will tend to risk money on whatever game is available—as opposed to the availability of a particular game inducing problem gambling in otherwise "normal" individuals. However research also indicates that problem gamblers tend to risk money on fast-paced games. Thus a problem gambler is much more likely to lose a lot of money on [poker](#) or [slot machines](#), where rounds end quickly and there is a constant temptation to play again or increase bets, as opposed to a state lottery where the gambler must wait until the next drawing to see results.

See also

- [Pathological gambling](#)

[Pathological Gambling](#)

Pathological Gambling

Pathological gambling, as defined by American Psychiatric Association is an impulse control disorder associated with [gambling](#). It is a chronic and progresive mental illness. It is estimated that 4-6% of gamblers are subject to the disease and that adolescents are three times more susceptible than adults.

The most common instrument used to screen for "probable pathological gambling" behavior is the South Oaks Gambling Screen (SOGS) developed by Lesieur and Blume (1987) at the South Oaks Hospital in New York. This screen is undoubtedly the most cited instrument in psychological research liturature.

A difficulty with treatment is recognition of the problem by the person, i.e., overcoming the denial. Treatment involves individual and group psychotherapy. There are self-support groups, such as Gamblers Anonymous.

There are two commonly accepted perceptions on how gambling is related to the psychological makeup of the human mind: The first, that gambling is a form of abnormal behavior; And the second, that gambling is a socially acceptable form of normal behavior.

Casino Games

Games available in most [casinos](#) are commonly called **casino**

games. A casino game typically provides a predictable long-term advantage to the house while offering the player the possibility of a large short-term payout.

Casino games often offer the player the illusion of control in which the player is given choices, but the choices do not eliminate the player's long-term disadvantage (the **house advantage**). This disadvantage is caused by the casino not paying the full amount that would be expected for the odds wagered. For example, if one game was played by betting what number a roll of a die would give, instead of paying 6 times the amount bet for winning (because it's a 1 in 6 chance) the casino only pays 5 times the amount bet.

A list of some casino games is given below.

- Asian stud
- [Baccarat](#)
- [Bingo](#)
- [Blackjack](#)
- [Caribbean Stud Poker](#)
- [Chinese poker](#)
- [Chuck-a-luck](#)
- [Craps](#)
- [Faro](#)
- [Four card poker](#)
- [Keno](#)
- [Let it ride](#)
- Mambo stud
- [Pai gow](#)
- [Pai gow poker](#)
- [Poker](#)
- [Red dog](#)
- [Roulette](#)
- [Sic bo](#)
- [Slot machine](#)
- [Three card poker](#)
- [Two-up](#)
- [Video poker](#)

Many casino games are also available outside casinos, playable on machines which simulate them.

[Beatable Games](#) | [Unbeatable Games](#) | [Bingo](#) | [Chinese Poker](#) |
[Chuck-a-luck](#) | [Two-up](#)

Beatable Games

Poker

Poker is a [card game](#), the most popular of a class of games called *vying games*, in which players with fully or partially concealed cards make wagers into a central *pot*, which is awarded to the remaining player or players with the best combination of cards. Poker can also refer to [video poker](#) which is a single-player game seen in casinos much like a slot machine.

In order to play, one must learn the basic rules and procedures of the game, the values of the various combinations of cards (see hand), and the rules about betting limits. Some knowledge of the equipment used to play is useful. There are also many variants of poker, loosely categorized as draw poker, stud poker, community card poker (a.k.a. "widow game"), and miscellaneous poker games. The most commonly played games of the first three categories are five-card draw, seven-card stud, and Texas hold 'em, respectively; each being a common starting point for learning games of the type. Dealer's choice is a way to play poker where the dealer chooses what type of poker to play.

History

The history of poker is a matter of some debate. The name of the game likely descended from the French poque, which descended from the German pochen ('to knock'), but it is not clear whether the origins of poker itself lie with the games bearing those names. It closely resembles the Persian game of as nas, and may have been taught to French settlers in New Orleans by Persian sailors. It is commonly regarded as sharing ancestry with the Renaissance game of primero and the French brelan. The English game brag (earlier bragg) clearly descended from *brelan* and incorporated bluffing (though the concept was known in other games by that time). It is quite possible that all of these earlier games influenced the development of poker as it exists now.

English actor Joseph Crowell reported that the game was played in New Orleans in 1829, with a deck of 20 cards, four players betting on which player's hand was the most valuable. Jonathan H. Green's book, *An Exposure of the Arts and Miseries of Gambling* (G. B. Zieber, Philadelphia, 1843), described the spread of the game from there to the rest of the country by Mississippi riverboats, on which [gambling](#)

was a common pastime.

Soon after this spread, the full 52-card English deck was used, and the flush was introduced. During the American Civil War, many additions were made, including draw poker, stud poker (the five-card variant), and the straight. Further American developments followed, such as the wild card (around 1875), lowball and split-pot poker (around 1900), and community card poker games (around 1925). Spread of the game to other countries, particularly in Asia, is often attributed to the U.S. military.

The game and jargon of poker have become important parts of American culture and English culture. Such phrases as ace in the hole, ace up one's sleeve, beats me, blue chip, call one's bluff, cash in, high roller, pass the buck, poker face, stack up, up the ante, when the chips are down, wild card, and others are used in everyday conversation even by those unaware of their origins at the poker table.

Modern tournament play became popular in American casinos after the World Series of Poker began in 1970. It was also during that decade that the first serious strategy books appeared, notably *The Theory of Poker* by David Sklansky (ISBN 1880685000), *Super System* by Doyle Brunson (ISBN 0931444014), and *The Book of Tells* by Mike Caro (ISBN 0897461002).

Poker's popularity has experienced an unprecedented spike in recent years, largely due to the introduction of [online poker](#) and the invention of the hole-card camera which finally turned the game into a spectator sport. Viewers can now follow the action and drama of the game, and broadcasts of poker tournaments such as the World Series of Poker and the World Poker Tour have brought in huge audiences for cable and satellite TV distributors.

Game play

The game of poker is played in hundreds of variations, but the following overview of game play applies to most of them.

Depending on the game rules, one or more players may be required to place an initial amount of money into the pot before the cards are dealt. These are called forced bets and come in three forms: antes, blinds, and bring-ins.

Like most [card games](#), the dealer shuffles the deck of cards. The deck is then cut, and the appropriate number of cards are dealt face-down to the players. In a casino a "house" dealer handles the cards for each hand, but a button (any small item used as a marker, also called a buck) is rotated among the players to determine the order of dealing and betting in certain games. In a home game, the right to deal the

cards typically rotates among the players clockwise, but a *button* may still be used.

After the initial deal, the first of what may be several betting rounds begins. Between rounds, the players' hands *develop* in some way, often by being dealt additional cards or replacing cards previously dealt. During a round of betting, there will always be a *current bet amount*, which is the total amount of money bet in this round by the player who bet last in this round. To keep better track of this, it is conventional for players to not place their bets directly into the pot (called *splashing* the pot), but rather place them in front of themselves toward the pot, until the betting round is over. When the round is over, the bets are then gathered into the pot.

After the first betting round is completed (every participating player having called an equal amount), there may be more rounds in which more cards are dealt in various ways, followed by further rounds of betting (into the same central pot). At any time during the first or subsequent betting rounds, if one player makes a bet and all other players fold, the deal ends immediately, the single remaining player is awarded the pot, no cards are shown, no more rounds are dealt, and the next deal begins. This is what makes it possible to bluff.

At the end of the last betting round, if more than one player remains, there is a showdown in which the players reveal their previously hidden cards and evaluate their [hands](#). The player with the best hand according to the poker variant being played wins the pot.

Computer players

The game of poker (or at least most of the variants) is considered to be computationally intractable. However, methods are being developed to at least approximate perfect strategy from the game theory perspective in the heads-up (two player) game, and increasingly good systems are being created for the multi-player or ring game. Perfect strategy has multiple meanings in this context. From a game-theoretic optimal point of view, a perfect strategy is a minimax one that cannot expect to lose to any other player's strategy; however, optimal strategy can vary in the presence of sub-optimal players who have weaknesses that can be exploited. In this case, a perfect strategy would be one that correctly or closely models those weaknesses and takes advantage of them to make a profit. Some of these systems are based on Bayes theorem, Nash equilibrium, Monte Carlo simulation, and Neural networks. A large amount of the research is being done at the University of Alberta by the GAMES group led by Jonathan Schaeffer who developed Poki and PsOpt.

One major aspect of poker is being a game of imperfect information. Some cards in play are concealed, so the players cannot deduce the exact state the game is in. This fundamentally differs from games like chess where all information about the game's current state is public. A major part of the skill of live poker games, however, is guessing at the strength of a player's hand by identifying tells made by other players, while concealing one's own. As a computer would not make any tells, playing against a computer would fundamentally change the nature of the game far more than chess and similar games.

Although you cannot read a computer opponent, playing against computer opponents can still help you sharpen your skills by learning how to count outs and play the percentages. With the advancing technology of artificial intelligence, computer players can be created to incorporate bluffs and other human-like decisions.

Quotations

Poker is a microcosm of all we admire and disdain about capitalism and democracy. It can be rough-hewn or polished, warm or cold, charitable and caring or hard and impersonal. It is fickle and elusive, but ultimately it is fair, and right, and just. — Lou Krieger

If you can't spot the sucker within the first half hour at the table, then you are the sucker. — common poker saying, as spoken by Matt Damon in *Rounders*; originally attributed to Amarillo Slim

Whether he likes it or not, a man's character is stripped bare at the poker table; if the other players read him better than he does, he has only himself to blame. Unless he is both able and prepared to see himself as others do, flaws and all, he will be a loser in cards, as in life. — Anthony Holden (from *Big Deal*)

There are few things that are so unpardonably neglected in our country as poker... Why, I have known clergymen, good men, kindhearted, liberal, sincere, and all that, who did not know the meaning of a 'flush'. It is enough to make one ashamed of one's species. — Mark Twain

Nobody is always a winner, and anybody who says he is, is either a liar or doesn't play poker. — Amarillo Slim

They anticipate losing when they sit down and I try my darnedest not to disappoint one of them. — Amarillo Slim

Poker is a game of people... It's not the hand I hold, it's the people that I play with. — Amarillo Slim

Hold 'em is to stud what chess is to checkers. — Johnny Moss

The guy who invented poker was bright, but the guy who invented the chip was a genius. — Big Julie

Last night I stayed up late playing poker with Tarot cards. I got a full

house and four people died. — Steven Wright

Cards are war, in disguise of a sport. — Charles Lamb, *Essays of Elia* (1832)

Poker is a godless game, full of random pain. — Andy Bloch

You call this one and it's all over, baby. — Scotty Nguyen, during the 1998 World Series of Poker. Down to him and one other player, he said this to his opponent who called, and it was all over.

Mae West: *Is poker a game of chance?* W.C. Fields: *Not the way I play it.* — My Little Chickadee

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See also

- [Online poker](#)
-

[Online Poker](#)

Online Poker

Online poker is the game of [poker](#) played over the Internet (online). It has been responsible for a dramatic increase in the number of poker players worldwide, and as of December 2003, revenues from online poker were estimated at US\$34 million per month.

Overview

Traditional (or "brick and mortar", B&M) venues for playing poker, such as [casinos](#) and poker rooms, may be intimidating for novice players and are located in geographically disparate locations. Brick and mortar casinos are also reticent to promote poker because it is very difficult for them to profit from the activity. Though the rake, or time charge, of traditional casinos is often very high, the opportunity costs of running a poker room are even higher. Brick and mortar casinos often make much more money by removing poker rooms and adding more [slot machines](#).

Online venues, by contrast, are dramatically cheaper because they have much smaller overhead costs. For example, adding another table does not take up valuable space like it would for a brick and mortar casino. Online poker rooms tend to be viewed as more player-friendly. For example, the software may prompt the player when it is his or her turn to act. Online poker rooms also allow the players to play for very low stakes (as low as 1¢) and often offer poker freerolls (where there is no entry fee), attracting beginners.

Online venues may be more vulnerable to certain types of fraud, especially collusion between players. However, they also have collusion detection abilities that do not exist in brick and mortar casinos. For example, online poker room security employees can look at the "hand history" of the cards previously played by any player on the site, making patterns of behavior easier to detect than in a casino where colluding players can simply fold their hands without anyone ever knowing the strength of their holding. Online poker rooms also check player's IP addresses in order to prevent players at the same household or at known open proxy servers from playing on the same tables.

The major online poker sites offer varying features to entice new players. One common feature is to offer tournaments called satellites by which the winners gain entry to real-life poker tournaments. It was through one such tournament that Chris Moneymaker won his entry to the 2003 World Series of Poker. He went on to win the main event causing shock in the poker world. The 2004 World Series featured triple the number of players over the 2003 turnout. At least four players in the WSOP final table won their entry through an online cardroom. Like Moneymaker, 2004 winner Greg "Fossilman" Raymer also won his entry at the PokerStars online cardroom.

In December 2003 it was reported that online poker revenues stood at around \$34m (€ 40m) per month and were growing by 27% per month. By March 2005, at peak times approximately 100,000 people were playing for real money at the various cardrooms with a like number playing free games.

In October 2004, Sportingbet Plc, at the time the world's largest

publicly traded online gaming company (SBT.L), announced the acquisition of ParadisePoker.com, one of the online poker industry's first and largest cardrooms. The \$340 million dollar acquisition marked the first time an online cardroom was owned by a public company. Since then, several other cardroom parent companies have gone public.

In June 2005, PartyGaming, the parent company of the largest online cardroom, went public on the London Stock Exchange, achieving an initial public offering market value in excess of \$8 billion dollars. At the time of the IPO, ninety-two percent of Party Gaming's income came from poker operations.

Legality

From a legal perspective, online poker may differ in some ways from online casino gambling, but many of the same issues do apply. For a discussion of the legality of online gambling in general, see [online gambling](#).

Online poker is legal and regulated in many countries including the United Kingdom and several nations in and around the Caribbean Sea.

In February 2005 the North Dakota House of Representatives passed a bill to legalize and regulate online poker and online poker cardroom operators in the State. Testifying before the State Senate, the CEO of one online cardroom, Paradise Poker, pledged to relocate to the state if the bill became law. However, the measure was defeated by the State Senate in March 2005.

Jim Kasper (R-Fargo), one of the main proponents of the legalization bill, has vowed to continue his lobbying efforts, stating that he is "not putting away the idea of getting into Internet gaming licenses in North Dakota" and that the "revenue we missed is too great to pass up."

Integrity and fairness

As with other forms of online gambling, many critics question whether the operators of such games - especially those located in jurisdictions separate from most of their players - might be engaging in fraud themselves.

Internet discussion forums are rife with unproven allegations of non-random card dealing, possibly to favour house-employed players or "[bots](#)" (poker playing software disguised as a human opponent), or

to give multiple players good hands thus increasing the bets and the rake, or simply to prevent new players from losing so quickly that they become discouraged. However, there is little more than anecdotal evidence to support such claims, and others argue that the rake is sufficiently large that such abuses would be unnecessary and foolish. Many claim to see lots of "bad beats" with large hands pitted against others all too often at a rate that seems to be a lot more common than in live games. But this theory might be refuted by the fact that online cardrooms deal more hands per hour. Because online players get to see more hands, their likelihood of seeing more improbable bad beats or randomly large pots is also increased.

However, to date there has been at least one site, ProPoker.com, that has been found to use serverside bots that play with the knowledge of players' cards and the cards yet to be dealt. It has since been shut down, with many players losing the funds they had on the site.

Many online poker sites are certified by bodies such as the Kahnawake Gaming Commission, and major auditing firms like PricewaterhouseCoopers review the fairness of the shuffle and payouts for some sites.

The problem of finding a protocol to play poker without a trusted dealer is called mental poker.

Differences between online and conventional poker

There are substantial differences between online poker gaming and conventional, in-person gaming.

One obvious difference is that players do not sit right across from each other, removing any ability to observe others' reactions and body language. Instead, online poker players learn to focus more keenly on betting patterns, reaction time and other behavior tells that are not physical in nature. Since poker is a game that requires adaptability, successful online players learn to master the new frontiers of their surroundings.

Another less obvious difference is the rate of play. In brick and mortar casinos the dealer has to collect the cards, then shuffle and deal them after every hand. Due to this and other delays common in offline casinos, the average rate of play is around thirty hands per hour. Online casinos, however, do not have these delays; the dealing and shuffling are instant, there are no delays relating to counting chips (for a split pot), and on average the play is faster due to "auto-action" buttons (where the player selects his action before his turn). It

is not uncommon for an online poker table to average sixty to eighty hands per hour.

This large difference in rate of play has created another effect among online poker players. In the brick and mortar casino, the only real way to increase your earnings is to increase your limit. In the online world players have another option, play more tables. Unlike a physical casino where it would be nearly impossible to play multiple tables at once, most online poker rooms allow a player to be on up to 4 tables at once. For example, a player may make around \$10 per 100 hands at a lower limit game. In a casino, this would earn them under \$4 an hour, which minus dealer tips would probably barely break even. In an online poker room, the same player with the same win rate could play four tables at once, which at 60 hands per hour each would result in an earning of \$24/hour, which is a modest salary for somebody playing online poker. Some online players even play eight or more tables at once, in an effort to increase their winnings.

Another important change results from the fact that online poker rooms, in some cases, offer online poker schools that teach the basics and significantly speed up the learning curve for novices. Many online poker rooms also provide free money play so that players may practice these skills in various poker games and limits without the risk of losing real money. People who previously had no way to learn and improve because they had no one to play with now have the ability to learn the game much more quickly and gain invaluable experience from free money play.

Tracking play

Tracking poker play in a B&M casino is very difficult. You can easily monitor your winnings, but tracking any detailed statistics about your game requires a player to take notes after each hand, which is cumbersome and distracting.

Conversely, tracking poker play online is easy. Most online poker rooms support "Hand Histories" text files which track every action both you and your opponents made during each hand. The ability to specifically track every single played hand has many advantages. Many third-party software applications process hand history files and return detailed summaries of poker play. These not only include exact tallies of rake and winnings, which are useful for tax purposes, but also offer detailed statistics about the person's poker play. Serious players use these statistics to check for weaknesses or "leaks" (mistakes that leak money from their winnings) in their game. Such detailed analysis of poker play was never available in the past, but with the

growth of online poker play, it is now commonplace among nearly all serious and professional online poker players.

Online poker portal

An online poker portal is a website offering poker-related content. Examples of such content could be news, tournament results, strategy articles or reviews of online poker cardrooms.

Some portals have a considerable amount of content, while others attempt to act as mere conduits to other sites, normally where actual gambling games are offered.

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Blackjack

Blackjack, also known as **twenty-one** and **pontoon** in British English, is one of the most popular **casino card games** in the world. Its precursor was "vingt-et-un" which originated in French casinos around 1700, and which did not offer the 3:2 bonus for a two-card 21. When the game was first introduced in the United States, it wasn't very popular so gambling houses tried various bonus payouts to get the players to the tables. One such bonus was a 10-to-1 payout if the player's hand consisted of the Ace of Spades and a black Jack (either the Jack of Clubs or the Jack of Spades). This was called a "blackjack" for obvious reasons and the name stuck even though the bonus payout was soon abolished. Much of blackjack's popularity is due to the mix of chance with elements of skill and decision making, and the publicity that surrounds the practice of card counting, a skill with which players can turn the odds of the game in their favor by making betting decisions based on the values of the cards known to remain in the deck.

Rules

Blackjack hands are scored by their point total. The hand with the highest total wins as long as it doesn't go over 21, which is called a *bust*. Cards 2 through 10 are worth their face value, and face cards (jack, queen, king) are also worth 10. An ace counts as 11 unless it would bust a hand, in which case it counts as 1.

The goal of each player is to beat the dealer, by having the higher, unbusted hand. Note that if the player busts, he loses, even if the dealer also busts. If the player's and the dealer's hands have the same point value, this is known as a "push", and neither player nor dealer wins the hand.

After initial [bets](#) are placed, the dealer deals the cards, either from one or two hand-held decks of cards, known as a "pitch" game, or more commonly from a shoe containing four or more decks. The dealer gives two cards to each player, including himself. One of the dealer's two cards is face-up so all the players can see it, and the other is face down. (The face-down card is known as the "hole card". In European blackjack, the hole card is not actually dealt until the players all play their hands.) The cards are dealt face up from a shoe, or face down if it is a pitch game.

A two-card hand of 21 (an ace plus a ten-value card) is called a "blackjack" or a "natural", and is an automatic winner. A player with a natural is usually paid 3:2 on his bet, although in 2003 some casinos started paying only 6:5 on blackjacks, a move decried by longtime blackjack players.

This is the summary of how the play proceeds after the deal.

- If the dealer has a blackjack and the player doesn't, the dealer wins automatically.
- If the player has a blackjack and the dealer doesn't, the player wins automatically.
- If the player and dealer both have blackjack, it's a tie (push).
- If neither side has a blackjack, then the first player completely plays out his hand, followed by the next player, and so on.
- When all the players have finished the dealer plays his hand.

The player's options for playing his hand are:

- Hit (take another card)
- Stand (take no more cards)
- Double down (double the wager, take exactly one more card, and then stand)
- Split (when the player has identical value cards, such as 8,8, place an additional wager and have each card be the first card in a new hand)
- Surrender (forfeit half his bet and give up his hand. Surrender is

not offered at most casinos.)

The player's turn is over after any of the following happens:

- He decides to stand.
- He busts. (in which case he loses even if the dealer subsequently busts, this is the source of the house advantage)
- He doubles down and receives exactly one more card.

After all the players have finished making their decisions, the dealer then reveals the hidden hole card and plays his hand. House rules say that the dealer must hit until he has at least 17, regardless of what the players have. In most casinos a dealer must also hit a soft 17 (such as an Ace and a 6). The table felt will indicate whether the dealer hits or stands on soft 17.

If the dealer busts then all remaining players win. Bets are normally paid out at the odds of 1:1.

Some common rules variations

- one card split aces: one card is dealt on each ace, players turn is over.
- early surrender: player has the option to surrender before dealer checks for Blackjack.
- late surrender: player has the option to surrender after dealer checks for Blackjack.
- double-down restrictions: double-down allowed only on certain combinations.
- dealer hits a soft seventeen (ace-six, which can play as seven or seventeen)
- *European No-Hole-Card Rule*: the dealer receives only one card, dealt face-up, and does not a second card (and thus does not check for blackjack) until players have acted. This means players lose not only their original bet, but also any additional money invested from splitting and doubling down.

There are more than a few blackjack variations which can be found in the casinos, each has its own set of rules, strategies and odds. it is advised to take a look at the [blackjack rules](#) of the specific variation before playing.

Insurance

If the dealer's upcard is an Ace, the player is offered the option of taking *Insurance* before the dealer checks his 'hole card'.

The player who wishes to take *Insurance* can bet an amount up to half his original bet. The *Insurance* bet is placed separately on a special portion of the table, which usually carries the words *Insurance Pays 2:1*.

The player who is taking *Insurance* is betting that the dealer's 'hole card' is a 10-value card, i.e. a 10, a Jack, a Queen or a King. Because the dealer's upcard is an Ace, this means that the player who takes *Insurance* is essentially betting that the dealer was dealt a *natural*, i.e. a two-card 21, a blackjack.

Insurance is a side-bet that pays off 2:1 if it wins.

Example: The player originally bets \$10 and the dealer shows an Ace. The player takes *Insurance* by betting an additional amount of \$5. Suppose the player's hand is 19. The dealer turns up his 'hole card' after the *Insurance* betting period is over -- and it's a 10-valued card. The player loses his \$10 bet. But the *Insurance* bet wins, so the player gets 2:1 on his \$5 *Insurance* wager and receives \$10 (on top of the \$5 which are returned to him). Note that the player came out even (i.e. did not lose any money) on that round.

Conversely, a player may win his original bet and lose his *Insurance* bet.

Example: The player originally bets \$10 and the dealer shows an Ace. The player takes *Insurance* by betting an additional amount of \$5. Suppose the player's hand is 19. The dealer turns up his 'hole card' after the *Insurance* betting period is over -- and it's *not* a 10-valued card. Suppose the 'hole card' is a 7. The player instantly loses his \$5 *Insurance* wager. (All *Insurance* wagers are settled as soon as the dealer turns over his 'hole card', before all else.) But the player wins his \$10 bet. Note that the player made a net profit on that round.

Of course, a player may lose both his original bet and his *Insurance* bet.

Insurance is considered a bad bet for the player who has no direct knowledge nor estimation (e.g. through card counting) of the dealer's 'hole card' because *Insurance* is a bet with negative expected value for the player. It is a bad bet even for a strict follower of Basic Strategy.

Insurance is a bad bet even for the player who has been dealt a natural (a two-card 21) to take *Insurance*. In such a case, the dealer usually asks the player "Even money?" This means that instead of 3:2, the player with the natural accepts to be paid off at 2:2. Which is exactly the same thing as betting on *Insurance*, losing the *Insurance* bet and getting paid 3:2 on the natural -- all at the same time. (If the player with the natural refuses to be paid "Even money", and the dealer turns over a natural, it is a tie.)

The reason *Insurance* is a bad bet for the player is that by paying 2:1 when his bet wins, the casino is underpaying the *Insurance* bettor.

Basic strategy

As in all [casino games](#), the house has a statistical advantage over the players that will play itself out in the long run. But because blackjack, unlike other games, has an element of player choice, players can actually reduce the casino advantage to a small percentage by playing what is known as *basic strategy*. This strategy determines when to hit and when to stand, and also determines when doubling down or splitting is the correct action. Basic strategy is based on the player's point total and the dealer's visible card. There are slight variations in basic strategy depending on the exact house rules and the number of decks used. Under the most favorable conditions (single deck, downtown Las Vegas rules), the house advantage over a basic strategy player can be as low as 0.16%. Indeed, casinos offering special rules like surrender and double-after-split may actually be offering a positive expectation to basic strategy players; they are counting on players making mistakes to make money.

The following rules are beneficial to the skilled player:

1. Doubles are permitted on any two-card hand except a blackjack.
2. Doubles are permitted after splitting.
3. Early surrender; the ability to forfeit half your wager against a face or ace before the dealer checks for blackjack.
4. Normal (aka "late") surrender.
5. Resplitting Aces.
6. Drawing more than one card against a split Ace.
7. Five or more cards with the total still no more than 21 as an automatic win (a "Charlie")

The following rules are detrimental to the skilled player:

1. Less than 3:2 payout on blackjacks (as is the case with Las Vegas Strip single-deck blackjack, paying out 6:5)
2. Dealer hits on soft seventeen (ace, six)
3. Splitting a maximum of once (to two hands)
4. Double down restricted to certain totals, such as 9-11 or 10,11
5. Aces may not be resplit
6. No-Peek (European) blackjack—player loses splits and doubles to a dealer blackjack
7. Player losing ties

Basic strategy tables

Your Hand	Dealer's face-up card									
	2	3	4	5	6	7	8	9	10	A
Hard totals										
18-21	S	S	S	S	S	S	S	S	S	S
17	S	S	S	S	S	S	S	S	S	Rs
16	S	S	S	S	S	H	H	Rh	Rh	Rh
15	S	S	S	S	S	H	H	H	Rh	Rh
13-14	S	S	S	S	S	H	H	H	H	H
12	H	H	S	S	S	H	H	H	H	H
11	D	D	D	D	D	D	D	D	D	H
10	D	D	D	D	D	D	D	D	H	H
9	H	D	D	D	D	H	H	H	H	H
5-8	H	H	H	H	H	H	H	H	H	H
Soft totals										
A,9	S	S	S	S	S	S	S	S	S	S
A,8	S	S	S	S	D	S	S	S	S	S
A,7	D	D	D	D	D	S	S	H	H	H
A,6	H	D	D	D	D	H	H	H	H	H
A,4-5	H	H	D	D	D	H	H	H	H	H
A,2-3	H	H	H	D	D	H	H	H	H	H
Pairs										
A,A	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP
10,10	S	S	S	S	S	S	S	S	S	S
9,9	SP	SP	SP	SP	SP	S	SP	SP	S	S
8,8	SP	SP	SP	SP	SP	SP	SP	SP	SP	Rsp
7,7	SP	SP	SP	SP	SP	SP	H	H	H	H
6,6	SP	SP	SP	SP	SP	H	H	H	H	H
5,5	D	D	D	D	D	D	D	D	H	H
4,4	H	H	H	SP	SP	H	H	H	H	H
2,2 3,3	SP	SP	SP	SP	SP	SP	H	H	H	H

The above is a basic strategy table for the most common 6- to 8-deck, Las Vegas Strip rules. Specifically: dealer hits on soft 17, double after split allowed, multiple split aces, one card to split aces, blackjack pays 3:2, and (optionally) late surrender.

Key:

S = Stand

H = Hit

D = Double

SP = SPlit

Rh = suRrender if allowed, otherwise hit

Rs = suRrender if allowed, otherwise Stand

Rsp = suRrender if allowed, otherwise SPlit

In some LV Strip casinos you may still be able to find the older version of the multi-deck shoe game, where dealer stands on soft 17; those are usually high minimum (\$50 or more) tables. This version is much more advantageous to the player, but requires a slightly modified basic strategy table.

Shuffle tracking

There exist techniques other than card counting that can swing the advantage of casino 21 towards the player, at least in theory. (It must be noted, however, that almost all of these techniques are based on the value of the cards to the player and the casino, as originally conceived by Edward O. Thorp.) One such technique, mainly applicable in multi-deck games (aka shoes), involves tracking groups of cards (aka slugs, clumps, packs) during the play of the shoe, following them through the shuffle and then playing and betting accordingly when those cards come into play from the new shoe. This technique, which is admittedly much more difficult than straight card counting and requires excellent eyesight and powers of visual estimation, has the additional benefit of fooling the casino people who are monitoring the player's actions and the count, since the shuffle tracker could be, at times, betting and/or playing opposite to how a straightforward card counter would.

Arnold Snyder's articles in Blackjack Forum magazine were the first to bring Shuffle Tracking to the general public.

Variants

[Spanish 21](#) provides players with many liberal blackjack rules,

such as doubling down any number of cards (with the option to 'rescue', or surrender only one wager to the house), payout bonuses for five or more card 21's, 6-7-8 21's, 7-7-7 21's, late surrender, and player blackjacks always winning and player 21's always winning, at the cost of having no 10 cards in the deck (though there are jacks, queens, and kings). With correct basic strategy, a Spanish 21 game has a lower house edge than a comparable blackjack game.

Certain rules changes are employed to create new variant games. These changes, while attracting the novice player, actually increase the house edge in these games. Double Exposure Blackjack is a variant in which the dealer's cards are both face-up. This game increases house edge by paying even-money on blackjacks and players losing ties. Double Attack Blackjack has very liberal blackjack rules and the option of increasing one's wager after seeing the dealer's up card. This game is dealt from a Spanish shoe, and blackjacks only pay even money.

Other casino games with opportunities

Casino games in which a player can get an advantage with sufficiently skilled play and game selection include [poker](#) tables, [video poker](#) machines, and a few video slot machines. For other games, such as [roulette](#) and [craps](#), it can be mathematically proven that no advantageous betting strategies exist (however, experts have claimed that both games are beatable - roulette through the use of "bias tracking" and craps through dice influencing or dice control).

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Video Poker

Video poker is a [casino game](#) which is based loosely on five-card draw [poker](#). It is played on a computerized console which is a similar size to a [slot machine](#).

History

Video poker first became commercially viable once it was economical to combine a television-like monitor with a solid state central processing unit. The earliest models appeared at the same time as the first personal computers were produced, in the mid-1970s, although they were rather primitive by today's standards.

Video poker became more firmly established when IGT (now a market-leading provider of gaming devices) brought out *Draw Poker* in 1979. Throughout the 1980s, video poker became increasingly popular, as people found the devices less intimidating than playing at the tables. Today, video poker enjoys a prominent place on the gaming floors of many casinos, and the game is especially popular with Las Vegas locals, who tend to patronize properties off the Las Vegas Strip for the better odds offered by those establishments.

Operation of the game

Game play begins by placing a bet of one or more credits, by inserting money (or in newer machines, a barcoded paper ticket with credit) into the machine, and then pressing a "Deal" button to draw cards. The player is then given an opportunity to keep or discard one or more of the cards in exchange for a new card drawn from the same

virtual deck, after which the machine evaluates the hand and offers a payout if the hand matches one of the winning hands in the posted pay schedule.

On a typical video poker machine, payouts start with a minimum hand of a pair of jacks. Pay schedules allocate the payout for hands based partially upon how rare they are, and also based upon the total theoretical return the game operator chooses to offer.

Some machines offer [progressive jackpots](#) for the royal flush, (and sometimes for other rare hands as well), thereby spurring players to both play more coins and to play more frequently.

Regulation

Video poker machines operated in state-regulated jurisdictions are programmed to deal random card sequences. A series of cards is generated for each play; five dealt straight to the hand, the other five dealt in order if requested by player. This is due to a Nevada regulation, adopted by every other state with a gaming authority, that if dice or cards are used for an electronic game, the electronic versions must be as random as the real thing, within computational limits set by certain tests that are performed by gaming authority agents. It is unclear whether all video poker machines at Indian gaming establishments are subject to the same Nevada-style regulations, as Indian casinos are located on property that is sovereign to the tribe which holds the gaming license.

Newer versions of the software no longer deal out all 10 cards at once. They now deal out the first five cards, and then when the draw button is pressed, they generate a second set of cards based on the remaining 47 cards in the deck. This was done after players found a way to reverse-engineer the RNG cycle from sample hands and were able to predict the hidden cards in advance.

Kinds of Video Poker

Newer video poker machines may employ variants of the basic five-card draw. Typical variations include: Deuces Wild, where a two can serve as a wild card and a jackpot is paid for four deuces or a natural royal; pay schedule modification, where four aces with a five or smaller kicker pays an enhanced amount (these games usually have some adjective in the title such as "bonus", "double", or "triple"); and multi-play poker, where the player starts with a base hand of five cards, and each additional played hand draws from a different set of

cards with the base hand removed. (Multi-play games are offered in "Triple Play", "Five Play", "Ten Play", "Fifty Play" and even "One Hundred Play" versions.)

In the non-wild games (games which do not have a wild card) a player who plays five or six hundred hands per hour, on average, may receive the rare four-of-a-kind approximately once per hour, while a player may play for many days or weeks before receiving an extremely rare royal flush.

Full Pay Games

When certain pay schedules are offered by a video poker machine, players using perfect or near perfect strategy can obtain greater than 100% payback over a sufficiently long period of play. These machines are referred to as "full pay" machines. Casinos place full pay machines alongside other machines with pay schedules that offer a negative return, so it is up to the player to properly identify which video poker machines offer the full pay schedules.

Most full pay machines are configured with a pay schedule that is only full pay when the maximum amount of credits is bet. (See the pay schedule tables later in this article for details.)

Deuces Wild

One variation of video poker, called "Deuces Wild", can be found with pay schedules that offer up to a theoretical return of 100.762%, when played with perfect strategy. It is also available with other pay schedules that have lesser theoretical returns:

Hand	1 credit	2 credits	3 credits	4 credits	5 credits
Natural Royal Flush	300	600	900	1200	4000*
Four Deuces	200	400	600	800	1000
Wild Royal Flush	25	50	75	100	125
Five of a Kind	15	30	45	60	75
Straight Flush	9	18	27	36	45
Four of a Kind	5	10	15	20	25
Full House	3	6	9	12	15
Flush	2	4	6	8	10
Straight	2	4	6	8	10
Three of a Kind	1	2	3	4	5
Theoretical Return	99.679%	99.679%	99.679%	99.679%	100.762%*

- *Notice the gap between the payoff for a Natural Royal Flush played with 4 credits vs. one with 5 credits. The payoff schedule for most video poker machines has a gap like this, such that players who do not play with the maximum number of credits at a time are playing with a negative theoretical return.

Double Bonus

Another variation of video poker, called "Double Bonus", can be found with pay schedules that offer up to a theoretical return of 100.1725%, when played with perfect strategy. It is also available with other pay schedules that have lesser theoretical returns:

Hand	1 credit	2 credits	3 credits	4 credits	5 credits
Royal Flush	250	500	750	1000	4000*
Straight Flush	50	100	150	200	250
Four Aces	160	320	480	640	800
Full House	10	20	30	40	50
Flush	7	14	21	28	35
Straight	5	10	15	20	25
Three of a Kind	3	6	9	12	15
Two Pair	1	2	3	4	5
Jacks or Better	1	2	3	4	5
Theoretical Return	99.1079%	99.1079%	99.1079%	99.1079%	100.1725%*

- *Notice the gap between the payoff for a Royal Flush played with 4 credits vs. one with 5 credits. Players who do not play with the maximum number of credits at a time are playing with a negative theoretical return.

Double Double Bonus

Another variation of video poker, called "Double Double Bonus", can be found with pay schedules that offer up to a theoretical return of 100.067%, when played with perfect strategy. It is also available with other pay schedules that have lesser theoretical returns:

Hand	1 credit	2 credits	3 credits	4 credits	5 credits
Royal Flush	250	500	750	1000	4000*
Straight Flush	50	100	150	200	250
Four Aces w/2, 3, or 4	400	800	1200	1600	2000
Four 2, 3, or 4 w/A-4	160	320	480	640	800
Four Aces	160	320	480	640	800
Four 2, 3, or 4	80	160	240	320	400
Four 5-K	50	100	150	200	250
Full House	10	20	30	40	50
Flush	6	12	18	24	30
Straight	4	8	12	16	20
Three of a Kind	3	6	9	12	15
Two Pair	1	2	3	4	5
Jacks or Better	1	2	3	4	5
Theoretical Return	98.9154%	98.9154%	98.9154%	98.9154%	100.067%*

- *Notice the gap between the payoff for a Royal Flush played with 4 credits vs. one with 5 credits. Players who do not play with the maximum number of credits at a time are playing with a negative theoretical return.

Other Full Pay Games

Other kinds of video poker only have positive theoretical returns when the progressive jackpot is high enough. Many establishments advertise with a billboard when the progressive jackpot is high enough.

Locating Full Pay Games

Although full pay video poker machines are found in many "locals" casinos (located off the Strip) in the Las Vegas market (and in a few Reno casinos), most Strip casinos and casinos in other markets only offer video poker pay schedules with a negative theoretical return.

The maximum bet size is kept fairly small on video poker machines with a full pay schedule (one dollar or less), which makes it impractical to win a large amount of money over any reasonable period of time.

Player's Clubs

Many casinos offer free memberships in "player's clubs" or "slot clubs", which return a small percentage of the amount of money that is bet in the form of "comps" (complementary food, drinks, hotel rooms, or merchandise), or sometimes as cash back (sometimes with a restriction that the cash be redeemed at a later date). These clubs require that players use a card that is inserted into the video poker machine to allow the casino to track the player's "action" (how much the player bets and for how long), which is often used to establish a level of play that may make a player eligible for additional comps.

Comps or cash back from these clubs can make a significant difference in the theoretical return when playing video poker over a long period of time. In some cases, usage of a club card can even add enough value to the pay schedule of a video poker game with a negative theoretical return to make that same game have a positive theoretical return.

See also

- [Slot machine](#)

[Progressive Jackpot](#)

Progressive Jackpot

A **progressive jackpot** is a jackpot (highest payoff) for a gaming machine, where the value of the jackpot increases a small amount for every game played. Often, a set of gaming machines is linked to one progressive jackpot.

The progressive jackpot meter

The amount of the jackpot is shown on a meter as a money value. Usually, the jackpot can only be won by winning the combination with the highest payoff, e.g. a royal flush at a [video poker](#) game or five of the most valuable symbols (lemons, cherries, alligators, it could be anything) on a [slot machine](#). Once a player wins the jackpot, the jackpot *resets* to a preset minimum level.

The amount on the jackpot progresses (increases) a small amount for every play on a connected machine. The amount that the jackpot

advances by is set by the casino or other machine owner ("the house"). For example, on a machine whose house edge is 5%, a generous jackpot contribution might be 1% (one fifth of the expected profit). The house is prepared to contribute some of the profit of a jackpot linked machine because players are attracted by the:

- relative novelty of progressive jackpots (generally, only a small fraction of the house's gaming machines will be connected to a progressive jackpot)
- the constantly changing meter, often displayed on large, fancy LED displays
- eventually, the large amount of the jackpot will induce more players to play the game.

Qualifying

Usually, only players playing maximum credits per play will qualify for winning the jackpot. All players (regardless of the number of credits per play) will contribute to the jackpot. As a result, a game that requires 10 credits to qualify for the progressive jackpot will tend to have the progressive jackpot rise to higher levels (relative to its break-even level) than a game that requires only 5 credits per play to qualify. For example, many players who find themselves playing three credits per play might reason that five credits per play is not much more than three, so why not play five and qualify for the much higher jackpot payoff. However, there is a much bigger gap between 3 and 10 credits per play, so at a game where 10 credits per play are required for qualification, more players will stick with 3 credits per play, and contribute to the progressive jackpot without ever winning it.

The break-even point

In some games such as [video poker](#), it is possible to compute an optimal play strategy, and hence the frequency for each payoff, including the frequency of a jackpot. From these the break-even point can be computed. At reset and when the progressive jackpot is less than the break-even point, there is a negative expected value (house edge) for all players. When the progressive jackpot is at the break-even point, the game is fair. (If the qualifying player were to play an infinite number of games, s/he would break even). When the jackpot is above the break-even point, then the game has a positive expected value for the qualifying player. In other words, if the player were to

play a very large number of plays (several tens of thousands for a typical game), it would become more and more likely that s/he would make a profit. Whether a profit is realised or not is of course a matter of chance, but the more plays made while the progressive jackpot is higher than the break-even point, the more likely it is that the player will end up ahead.

Player advantage

Unusually, a player that chooses only to play when the progressive jackpot is higher than the break-even point, is still making money for the casino, and so is welcomed and may earn complimentary gifts. Consider a game with a 5% house edge, and a 1% progressive jackpot contribution. This game is 4% in favour of the house. What happens is that the one percent jackpot contribution is "saved up" in a sort of account, to be won by a lucky or skillful player. The mechanics of the jackpot ensure that while some jackpot winners will be taking home more than they put into the machines, any amount that they win over an above a four percent loss is made up from the jackpot "account".

An example may make this clearer. Suppose the game has percentages as above and the jackpot resets to \$5000. Each credit is \$1, and five credits are required to qualify for the jackpot. That means \$5 per play to qualify for the jackpot. From the house's point of view, $4\% * \$5 = 20c$ is profit, and $1\% * \$5 = 5c$ is contributed to the jackpot. Let's say the frequency of the jackpot with perfect strategy decisions is 1 in 50,000. That means that the player will bet $5 * 50,000 = \$250,000$ on an average game cycle. Because the base game has a 5% house edge, the player will get 95% of that back, or \$237,500, in payoffs ranging from nothing to getting his/her money back to the \$5000 minimum jackpot payoff. A further $\$0.05 * 50,000 = \$2,500$ is contributed towards the jackpot. The average cost of buying a jackpot is $\$250,000 - \$237,500$ or \$12,500. Hence the break even point for this game is $\$12,500 + \$5000 = \$17,500$. Note that without the final jackpot payoff, the return is worse, such that you'd expect to be \$17,500 behind (down 7%) when you won the \$5000, to be \$12,500 behind at the end (down 5%). If the jackpot is \$17,500 on a perfectly average cycle, you would expect to be \$17,500 down just before hitting the jackpot, and you would break even after the jackpot. If the jackpot was say \$23,000, then you'd expect to be ahead by $\$23,000 - \$17,500$ after an average cycle, or \$5500 ahead, for a $\$5500 / \$17500 * 100\% = 31.4\%$ return on your expected \$17,500 investment. Of course, it might take 2 or 3 or 5 times as long as average to win a jackpot (costing the player a lot of money); that's why it's called gambling. There is also a chance that the player will win the jackpot

in fewer than the expected number of plays ("it might come early").

Let's take the \$23,000 winner case. Joe makes his \$5500 and is happy with the month's work. But Joe only played 50,000 games, contributing only $1\% \times \$5 = \$0.05$ per game. That's a total of \$2500. In order for the jackpot to progress by \$12,500, other players must have played games totalling $\$12,500 - \$2500 = \$10,000$. Most likely, it wasn't 200,000 plays at \$5 per play, because on average the jackpot goes off every 50,000 plays. More likely, there were almost a million plays by people playing mostly \$1 per game, contributing their cent each to the jackpot, but not able to win it. Let's say it was a million plays at \$1 each. Of that million plays, about 20 received the highest payoff (say \$800 for a royal flush), but even with all those payouts, the house still got its 4% edge (5% for the base game, less 1% for the progressive jackpot). So the way to look at it is this: the house still made \$10,000 off Joe (\$12,500 less Joe's own jackpot contribution of \$2500), made \$50,000 from the other players, but kept \$10,000 of that in the jackpot "account" for Joe to win. So while the house made \$12,500 from Joe and \$40,000 from other players, Joe made \$5500, because he had the \$5000 reset jackpot amount (part of the house 5%), plus the \$10,000 from the other players, and the \$2500 of his own jackpot contributions, to offset the "cost of buting the jackpot" (\$12,500), for an overall profit of \$5500. When you think about it, the house is organising for other players to pay Joe, via the jackpot "account".

Savvy gamblers are aware of this, and sometimes organise groups of players to play machines where the progressive jackpots are favourable. Such teams can sometimes displace ordinary players, making the machines unavailable just when they are at their most interesting. As a result, some casinos have a policy of "no team play", and will eject players suspected of playing in such teams.

Player's clubs

Many casinos offer a small fraction of a gambler's expected losses back in the form of cash, as a kind of loyalty reward; see Video poker#Player's Clubs. Usually, the cash back is a small fraction of each bet. It is generally very worthwhile to join, as it is usually free to join the club and painless to redeem the rewards. Such a reward scheme can significantly reduce the break-even point of a progressive jackpot, e.g. reducing it from \$4000 to \$3600. The player's clubs also have another use; it is usually trivial to calculate the number of plays from the amount of the reward. Serious gamblers need to keep a record of their activity, to make sure that they are getting approximately their expected return. A significant departure from

expected return could indicate strategy errors, or an unfair machine.

Pai Gow Poker

Pai gow poker, or double-hand poker, is an Americanized version of **Pai Gow**, in that Pai Gow Poker is played with **playing cards** using **poker** hand rankings while Pai Gow is played with Chinese dominoes.

The game is played with a standard 52-card deck, plus a single joker. It is played on a table set for six players plus the dealer.

Each player is playing against the banker, who may be the casino dealer or one of the other players at the table.

Object of the Game

The object of the game is to create two poker hands out of the seven cards in your hand: A five-card poker hand and a two-card poker hand. The five-card hand must rank higher than your two-card hand. The two-card hand is often called the hand "in front" or "on top", and the five-card hand is called the hand "behind" or "bottom", as they are placed that way in front of the player when he is done setting them.

The Deal

The cards are shuffled, and then dealt to the table in seven face-down piles of seven cards, with four cards unused, regardless of the number of people playing.

Betting positions are assigned a number from 1 to 7, starting with whichever player is acting as banker that hand, and counting counter-clockwise around the table. A random number from 1 to 7 is determined (either electronically or manually with dice), and the deal begins with that assigned position and proceeds counter-clockwise.

One common way of using dice to determine the dealer starting number is to roll three six-sided dice, then count betting spots clockwise from the first until the number on the dice is reached.

If a player is not sitting on a particular spot, the hand is still assigned but then placed in the discards with the four unused cards.

Hand Rankings

The only two-card hands are one pair and high cards; no straights, flushes, and so on. The joker plays as a bug: that is, in the five-card hand it can be used to complete a straight or flush, if possible; otherwise it is an ace. In the two-card hand, it always plays as an ace. Five-card hands use standard poker hand rankings, with one exception: in most Nevada casinos, the hand **A-2-3-4-5** ranks above a king-high straight, but below the ace-high straight **A-K-Q-J-10**. In California & Michigan, this rule doesn't apply. The **A-2-3-4-5** is the lowest possible straight.

Determining a Win

If each of your now-separated hands beats the banker's corresponding hand, then you win your bet. If only one of your hands beats the banker, then you push. If both of your hands lose to the banker, then you lose.

On each individual hand, ties go to the banker (for example, if your five-card hand loses to the banker and your two-card hand ties him, you lose). This gives the banker a small advantage. If you foul your hand, meaning that your low hand outranks your high hand or that there are an incorrect number of cards in each hand, there will be a penalty, either re-arrangement of the hand according to house rules or forfeiture of the hand.

In casino-banked games, the banker is generally required to set their hand in a pre-specified manner called "house way", so the dealer does not have to implement any strategy in order to beat the players. When a player is banking, he is free to set the hand however he chooses. However, the player has the option of "co-banking" with the house, and if this option is chosen, the player's hand must also be set the house way.

California casinos typically charge a flat fee per hand, such as 5 cents or one dollar, to play, win or lose. Other casinos take out of winnings a 5% commission. While this seems high, it should be noted that a hand of Pai Gow poker takes a long time to play compared to, say, [blackjack](#), and there are many pushes, so the house doesn't collect that 5% as often as it would collect the house percentage on other games.

Basic Strategy

Generally speaking, one should try to set the highest two-card hand that you can legally set (that is, the best two-card hand that still

leaves a higher five-card hand behind). More specifically, one should expect an "average" hand to be something like a medium-to-high pair behind in the five-card hand and an ace-high in front. Detailed computer analysis has been done to determine ideal strategy, but this requires memorizing large tables. A close approximation can be done with only a few rules of thumb. If you are playing in a casino, you can always ask that your hand be set "house way" if you are in doubt; most house strategies are quite reasonable and can be quite close to optimal strategy.

- If you have no pair, no straights, and no flushes, set the second- and third-highest cards in your two-card hand. For example, with **K-Q-J-9-7-4-3**, play **Q-J** and **K-9-7-4-3**. There are a few minor exceptions to this (for example, with **A-Q-10-9-5-4-2** it is slightly better to play **Q-9** and **A-10-5-4-2**), but these are rare and don't affect your win rate much.
- If you have nothing but a single pair, set it in your five-card hand and put the two highest remaining cards in your two-card hand. For example, with **A-Q-Q-9-6-5-3**, play **A-9** and **Q-Q-6-5-3**. There are no exceptions to this rule. This rule and the rule above will cover 90% of the hands you play.
- Two pair is the most common case where strategy isn't obvious. You can either play the high pair behind and small pair in front, or else two pair behind and high cards in front. The smaller your high pair and higher your remaining cards, the more you should be inclined to play two pair behind. If your side cards are small, or your larger pair is large, split the pairs. You should *always* split pairs if your high pair is aces, and almost always split if your high pair is kings or queens; they are high enough by themselves. With something like **J-J-4-4-A-Q-5** you can consider playing **A-Q** and **J-J-4-4-5**-, since **A-Q** in front is not much worse than **4-4**, but two pair behind is much better than a single pair of jacks. Jacks and tens might be more inclined to split, because tens in front is *much* better than **A-Q**. With pairs as small as 7s and 8s, you might consider playing two pair behind if you can play a king-high or better in front. With 2s and 3s, you might even play as little as a queen-high in front. If you have no side cards higher than a jack, *always* split pairs, even 2s and 3s. (Most house ways split if there's a pair of 6s or higher, and split small pairs if there's no Ace for the low hand.)
- Three pair is a very good hand. *Always* play the highest pair in front, no exceptions. For example, with **K-K-7-7-4-4-A**, play **K-K** and **7-7-4-4-A**.
- If you have three of a kind and nothing else, play three of a kind

behind and remaining high cards in front, unless they are aces--*always* split three aces, playing a pair of aces behind and ace-high in front. Occasionally, you can even split three kings if your remaining side cards are not queen-high (for example, with **K-K-K-J-9-7-6**, it is slightly better to play **K-J** and **K-K-9-7-6** than to play **J-9** and **K-K-K-7-6**). Most house ways only split three Aces.

- If you can play a straight or a flush or both, play whichever straight-or-better five-card hand makes the best two-card hand. For example, with **K`9`-8c-7`-6c-5`-4`**, playing the flush would put **8-6** in front, playing the 9-high straight would put **K-4** up front, but the correct play is **K-9** and **8-7-6-5-4**. Occasionally, you will have a straight or flush with two pair; in that case, play as if it were two pair and ignore the straight or flush. This rule applies even if you can play a straight flush: if a straight or flush makes a better hand in front, play it that way.
- With a full house, generally play trips behind and the pair in front. The exception is if the pair is very small and your side cards are very high, for example, with **5-5-5-3-3-A-Q**, it might be better to play **A-Q** with the full house behind. These are rare, though, and you will never be making a big mistake if you never play a full house behind. House ways will always split the full house.
- With two sets of trips, play the higher as a pair in front, and the smaller trips behind. For example, with **Q-Q-Q-7-7-7-A**, play **Q-Q** and **7-7-7-A-Q**. No exceptions.
- With four of a kind, play as if it were two pair, but be slightly less inclined to split. For example, with **10-10-10-10-J-5-4**, play **10-10** and **10-10-J-5-4**; with **3-3-3-3-K-Q-7**, play **K-Q** and **3-3-3-3-7**. Most house ways always split the four of a kind.
- With three pair and a straight or flush (only possible with the joker), play as three pair (aces in front).

The cases below will probably never happen to you, but just in case:

- With four of a kind and a pair, play the pair in front unless it is very small *and* the four of a kind is very large. For example, with **9-9-9-9-7-7-K**, play **7-7** and **9-9-9-9-K**, but with **Q-Q-Q-Q-3-3-9**, you might play **Q-Q** and **Q-Q-3-3-9**. House ways always put the quartet in back and the pair in front.
- With a full house and a pair, play the higher pair in front and a full house in back.
- With four of a kind and trips, split the four to play a pair in front and full house behind. House ways will tend to break the

trips.

- With all four aces and the joker, play a pair of aces in front and three aces (or a full house) behind UNLESS your back pair is a pair of kings; you get the honor of gloating on this one.
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Pai Gow

Pai Gow

Pai Gow (Chinese: L]; Hanyu Pinyin: páijiǒ, Cantonese: paai4 gau2) is a Chinese [gambling](#) game. It is played with the Chinese dominoes tile set. The game is played in underground [casinos](#) in most Chinese communities. It is played openly in major casinos in Macau, China, Las Vegas, Nevada, Atlantic City, New Jersey, in many California cardrooms, and in some Australian casinos. It is an ancient game, thousands of years old, and steeped in tradition.

The name "Pai Gow" is sometimes used to refer to a [card game](#) called [Pai Gow Poker](#) (or *Double Hand Poker*), also popular in Nevada and California, and which is loosely based on the Chinese game.

Rules

The set-up

Tiles are randomized on the table, and are stacked into eight stacks of four tiles each. This assembly is known as the *woodpile*. Various ritualistic "shuffles" are made, rearranging the tiles in the woodpile in standard ways that result in a new woodpile. Bets are then made.

Next, each player (including the dealer) is given four tiles with which to make two hands of two tiles each. The hand with the lower value is called the *front hand*, and the hand with the higher value is called the *rear hand*. If a player's front hand beats the dealer's front hand, and the player's rear hand beats the dealer's rear hand, then that player wins the bet. If a player's front and rear hands both lose to the dealer's respective hands, the player loses the bet. If one hand wins and the other loses, the player is said to *push*, and gets back only the money he or she bet. Generally seven players will play, and each player's hands are compared only against the dealer's hands.

Basic scoring

The name "Pai Gow" is loosely translated as "Make Nine" or "Card Nine". This reflects the fact that, with a few high-scoring exceptions, the best a hand can score is nine. To find the value of a hand, simply add the total number of pips on the two tiles, and drop the tens place. So for instance, a 1-3 tile (a tile with one pip on one end and three pips on the other, for a total of four pips) used with a 2-3 tile (with five total pips) will score nine, since four plus five is nine. A 2-3 tile with a 5-6 tile will score six, and not sixteen, because you drop the 1. And a 5-5 tile with a 4-6 tile will score zero, since ten plus ten is twenty, and twenty reduces to zero when you drop the tens place.

Gongs and Wongs

There are special ways in which a hand can score more than nine points. The double-one tiles and double-six tiles are known as the *Day* and *Teen* tiles, respectively. If a Day or Teen tile is used with an eight, the pair is worth ten instead of the usual zero. (This is called a *Gong*.) If a Day or Teen tile is used with a nine, the hand is worth eleven instead of one. (This is called a *Wong*.) But a Day or Teen tile used with a ten is only worth two, not twelve; this is because only eights and nines can be combined with Days or Teens for higher values. (In other words, when Day or Teen tiles are combined with tiles other than an eight or nine, follow the normal scoring rules.)

The Gee Joon tiles

The 1-2 and the 2-4 tiles are called *Gee Joon* tiles (or sometimes called wildcards). Either tile can count as 3 or 6, whichever scores more. So a 1-2 tile can be used with a 5-6 tile to make a hand worth seven points, rather than four.

Pairs

The 32 tiles in a Chinese Dominoes set can be arranged into 16 pairs, as shown in the picture at the top of this article. Eleven of these pairs have identical tiles, and five of these pairs are made up of two tiles that score the same, but look different. (The latter group includes the Gee Joon tiles, which can score the same, whether as three or six.) If a hand is made up of a pair, it always scores higher than a non-pair, no matter what the value of the pips are. (Pairs are often thought of as being worth 14 points each.)

When two pairs are compared, the higher-valued pair wins. This is not determined by the sum of their pips, but by aesthetics. It must be

memorized which pairs score more than other pairs. The highest pairs are the Gee Joon tiles, the Teens, the Days, and the red eights. The lowest scoring pairs are the mismatched nines, eights, sevens, and fives. But even the lowest-scoring pair will beat any non-pair.

Ties

When one of a player's hands is compared to one of the dealer's hands, it sometimes happens that both will have the same score. For instance, a player may have a front hand worth one point, consisting of a 3-4 tile and a 2-2 tile, and the dealer may have a front hand also worth one point, made up of a 5-6 tile and a 5-5 tile. In these cases, determine which tile in each hand has a higher value, as determined by the pair rankings mentioned above. In this case, the 2-2 tile is in a higher-ranking pair than the 3-4 tile, and the 5-5 tile is in a higher-ranking pair than the 5-6 tile. (Again, the rankings of the pairs follows no obvious pattern and must be memorized.) Since the 5-5 pair outranks the 2-2 pair, the dealer would win this front hand. In the unusual case of a true tie, where the dealer's high tile would be in the same pair as the player's high tile, the dealer wins the tie.

There are two exceptions to the method described above. First, although the Gee Joon tiles form the highest-ranking pair, they are considered to have no value when evaluating ties. Second, any zero-zero tie is won by the dealer, regardless of the tiles in the hand.

Strategy

The basic decision to be made in Pai Gow is how to arrange one's hands. Given any four tiles, there are always three ways to arrange them into two hands (although some arrangements may be functionally identical to others). Sometimes one way will be clearly superior to another, but at other times it is difficult to determine the best strategy.

For instance, consider the four tiles at right. It would clearly be unwise to combine tile A with tile B, since each hand would be worth zero. It would make more sense to combine tile A with tile C, in which case both hands would be worth 5. Or you could pair tile A with tile D, in which case your front hand would be worth 3 and your rear hand would be worth 7. Which is a better choice?

If you think the dealer will have poor hands, such as a front of 1 and a rear of 6, you would want to pair tile A with tile D in order to maximize your chance of winning. If you are afraid the dealer may have a better hand, such as a front of 4 and a rear of 9, then you will

want to pair tile A with tile C in order to maximize your chance of pushing. You might also consider that pairing tile A with tile D will make it more likely that a tie would break in your favor.

Experience will help a player get a feel for which hand combinations will work well in which situations. Many players use various superstitions as well, believing that one should (for instance) never pair a 6-4 tile with a nine.

Sports Betting

Sports betting

is the general activity of predicting sports results by making a wager on the outcome of a sporting event. Perhaps more so than other forms of [gambling](#), the legality and general acceptance of sports betting varies from nation to nation. In North America, for example, sports gambling is generally forbidden, while in many European nations, bookmaking (the profession of accepting sports wagers) is regarded as an honorable occupation and, while highly regulated, is not criminalized. Proponents of legalized sports betting generally regard it as a hobby for sports fans that increases their interest in particular sporting events, thus benefitting the leagues, teams and players they bet on through higher attendances and television audiences. Opponents fear that, over and above the general ramifications of [gambling](#), it threatens the integrity of amateur and professional sport, the history of which includes numerous attempts by sports gamblers to fix matches, although proponents counter that legitimate bookmakers will invariably fight corruption just as fiercely as governing bodies and law enforcement do.

Types of bets

Aside from simple wagers--betting a friend that one's favorite baseball team will win its division, for instance, or buying a football "square" for the Super Bowl--sports betting is commonly done through a bookmaker. Legal sports bookmakers exist throughout the world (perhaps most notably in Las Vegas). In areas where sports betting is illegal, bettors usually make their sports wagers with illicit bookmakers (known colloquially as "bookies") and on the Internet, where thousands of online bookmakers accept wagers on sporting events around the world. (In the United States, the legality of Internet wagering is ambiguous, due to the fact that online bookmakers generally operate outside of the U.S.) The bookmaker earns a

commission or "vigorish" (normally 10 percent) on all losing wagers, and pays out a predetermined amount to winning bets. Odds on teams or opponents are quoted in terms of the *favorite* (the team that is expected to win, thus requiring a riskier wager) and the *underdog*.

Bookmakers generally offer two types of wagers on the winner of a sporting event: a *straight-up* or money line bet, or a point spread wager. Moneylines and straight-up prices are used to set odds on sports such as soccer, baseball and hockey (the scoring nature of which renders point spreads impractical) as well as individual vs. individual matches, like boxing. For these sports, bookmakers in Europe and Asia generally use straight-up odds, which are quoted based on a payout for a single bet unit; for example, a 2-1 favorite would be listed at a price of 1.50, whereas an underdog returning twice the amount wagered would be listed at a price of 3.00.

American bookmakers generally use moneylines, which are quoted in terms of the amount required to win \$100 on a favorite, or the amount paid for a \$100 bet on an underdog. The amount "won" in a bet is the net amount over and above the initial bet. If a person wins \$200 on a bet of \$100, the bookmaker actually pays the winner \$300 (i.e. \$200 plus the initial bet of \$100).

For example, a baseball game between the St. Louis Cardinals and Chicago Cubs might have a moneyline on St. Louis (the favorite) at -200 and Chicago (the underdog) at +180. A bettor looking to take St. Louis must risk \$200 for every \$100 he wishes to win over and above the initial \$200 bet. A person wagering on Chicago will win \$180 for every \$100 he bets.

The +180 moneyline on Chicago includes a 20 cent "dime line". Bookmakers generally use a "dime line" with moneylines to calculate the vigorish they receive on losing wagers. Without the 20 cent dime line in the example above, the Chicago moneyline would be +200.

For favorites of -120 to -150, the difference between the favorite and underdog is 10 cents; i.e., the underdog to a -120 favorite is priced at +110. The discrepancy between prices rises for favorites of -160 or higher.

Unlike point spread bets, a moneyline wager requires only that the team wagered upon win the match. In sports such as baseball, where certain teams can be heavy favorites against weaker opponents (sometimes as much as -350 or higher), the moneyline system requires that a hefty sum be risked on the favorite, while enticing underdog players with a higher payout.

In sports such as basketball and American football, rather than varying the money odds (which can be substantial in lopsided matches), the point spread is used. A point spread wager typically

requires a bettor to risk \$110 to win \$100, the extra \$10 being the bookmaker's vigorish if the wager loses. However, bettors backing the favorite collect only if their team wins by more than a specific victory margin, which is set at the time of the wager. Similarly, underdog bettors can collect even when their team loses, as long as they cover the point spread by losing by fewer points than were quoted by the bookmaker. For example, suppose that a college football game between Oklahoma and Kansas had Oklahoma as a 27 point favorite (quoted as Oklahoma -27, or Kansas +27):

- If Oklahoma defeats Kansas by **more than** 27 points, bettors on Oklahoma would receive \$100 on a \$110 bet. Kansas bettors lose the \$110 they wagered.
- If Kansas defeats Oklahoma, bettors on Kansas would receive \$100 on a \$110 bet. Oklahoma bettors lose the \$110 they wagered.
- If Kansas loses by **less than** 27 points, they have covered the spread. Bettors on both sides are then treated exactly as if Kansas had won the game.
- If Oklahoma wins by **exactly** 27 points, the wager is called a "push", and neither side wins. Standard practice by U.S. bookmakers is to return the stakes of all bettors on the game in full. To prevent pushes and ensure that they receive their commission on losing wagers, bookmakers typically set point spreads that include a half-point.

Another common wager available for sporting events involves predicting the combined total score between the competing teams in a game. Such wagers are known as "totals" or "over/unders." For example, the Oklahoma/Kansas football game described above might have a total of 55 points. A bettor could wager that both teams will combine for over 55 points, and play the "over." Or, she could predict that the score will fall under this amount, and play the "under." As with point spreads, bookmakers frequently set the totals at a number involving a half-point (i.e., 55.5), to reduce the occurrence of pushes.

Many bookmakers offer several alternative bets, including the following:

- *Proposition bets.* These are wagers made on a very specific outcome of a match. Examples include guessing the number of goals each team scores in a soccer match, betting whether a wide receiver in a football game will net more or less than a set amount of total yardage, or wagering that a baseball player on one team will accumulate more hits than another player on the opposing team.

- *Parlays.* A parlay involves multiple bets (usually up to 12) and rewards successful bettors with a large payout. For example, a bettor could include four different wagers in a four-team parlay, whereby he is wagering that all four bets will win. If any of the four bets fails to cover, the bettor loses the parlay, but if all four bets win, the bettor receives a substantially higher payout (usually 10-1 in the case of a four-teamer) than if he made the four wagers separately.
- *Run line, puck line or goal line bets.* These are wagers offered as alternatives to straight-up/moneyline prices in baseball, hockey or soccer, respectively. These bets feature a fixed point spread that offers a higher payout for the favorite and a lower one for the underdog. For example, the above-described Cardinals/Cubs baseball game might offer a run line of St. Louis -1.5 (+100) and Chicago +1.5 (-120). A bettor taking St. Louis on the run line can avoid risking \$200 to win \$100 on the moneyline, but will collect only if the Cardinals win by 2 runs or more. Similarly, a run line wager on the Cubs will pay if Chicago loses by no more than a run, but it requires the bettor to risk \$120 to win \$100.
- *Future wagers.* This bet predicts a future accomplishment by a team or player. One example is a bet that a certain NFL team will win the Super Bowl for the upcoming season. Odds for such a bet generally are expressed in a ratio of units paid to unit wagered. The team wagered upon might be 50-1 to win the Super Bowl, which means that the bet will pay 50 times the amount wagered if the team does so.

Bookmaking

Most people believe that bookmakers attempt to "balance" their action, by adjusting their prices so that they get the same amount of money on both sides of a game. Theoretically, the bookmaker's only financial interest in the bets it accepts is the vigorish it takes from losing wagers, and it simply wants to ensure that the amount of wagers on each side is equal. In reality, however, bookmakers attempt to maximize their bottom line. While having an exactly equal amount of money wagered on each contestant would guarantee themselves a profit and eliminate their risk, that won't necessarily maximize their bottom line. They can make more money when they accept bets at odds which are "inflated" from those which are likely to occur. So for example, if the majority of their customers are going to bet on a team

regardless of the price, they will set the price as high as possible. Some bookmakers actually offer different prices to different customers, using past bets as an indicator of who the customer will bet on as a way of additionally increasing their potential profit.

With a match offering a point spread, however, bookmakers must be careful of moving the line too much. Assume, for example, that a large number of Oklahoma bettors caused the line to be moved from 27 points all the way to 29 points. If Oklahoma won the game by 28 points, the bookmaker would have to pay both those who wagered that Oklahoma would win by 27 and those who took Kansas on the 29 point spread. Bookmakers refer to such an event as "being middled." This famously occurred in the 1979 Super Bowl between the Pittsburgh Steelers and Dallas Cowboys, which American bookmakers still remember as "Black Sunday." For that game, bookmakers opened Pittsburgh as a 3.5 point favorite, and the line closed just before kickoff at Pittsburgh -4.5. Pittsburgh won the game 35-31, enabling both those who took the Steelers -3.5 and those who wagered on the Cowboys +4.5 to collect.

Sometimes, a point spread is set at an amount that equals a common margin of victory for a particular sporting event. For instance, American football games are often decided by 3 points (the amount awarded for a field goal) or 7 points (the amount awarded for a touchdown with a successful extra-point attempt). In the case of a football game where the favorite is -7, moving the line up or down would likely result in a middle if the favorite wins by exactly 7 points. In this situation, the bookmaker may choose to adjust the vigorish in response to unbalanced action, rather than move the point spread. If the 7 point favorite is getting the most wagers, a bookmaker may change the vigorish on that team from -7 (-110) to -7 (-120), and move the underdog to +7 (+100). Once this occurs, bettors looking to wager on the favorite must risk \$120 for every \$100 they wish to win, while underdog players will get even money for every dollar they wager.

A bookmaker's line can be influenced by one or several large wagers made on a match. Bookmakers pay particular attention to the bets of a professional sports gambler, commonly known within the industry as a "sharp" or "wiseguy." Some bookmakers will not accept bets from bettors they believe fit in this category. As a result, professionals use "beards" to make the bets for them. Groups of professionals who work together are known as a "syndicate." These syndicates will often place large wagers with several books simultaneously, causing the prices to move quickly. Observers refer to these fast line movements as "steam."

The Federal Wire Act of 1961 was an attempt by the US

government to prevent illegal bookmaking.

Betting scandals

Historically, sports betting has been associated with a number of unsavory characters, which has a lot to do with its desultory legal treatment throughout the world. Organized crime notoriously has relied upon sports betting for money laundering or funding purposes. The corruption or threat of a boxer to take a dive at the x round is a frequent theme in mafia-related movies. All of the American professional sports leagues, as well as the National College Athletic Association (NCAA), take stringent measures to disassociate themselves from sports gambling. Nevertheless, sports history is riddled with several incidents of athletes conspiring with gamblers to fix the outcomes of sporting events, or criminals acting against athletes whose on-field performance affected their wagers.

- In 1919, gamblers bribed several members of the Chicago White Sox to throw the World Series. This became known as the Black Sox Scandal and was recounted in book and movie form as "Eight Men Out".
- In 1978, mobsters connected with the New York Lucchese crime family, among them Henry Hill and Jimmy Conway, organized a point shaving scheme with key members of the Boston College basketball team.
- Andrés Escobar, a Colombian defender, was murdered shortly after his return from the 1994 World Cup, where he scored an own goal, the first of a 2-1 defeat to the USA that knocked out the Colombians at the first phase. In the most believed explanation, the Medellín drug cartel bet large sums of money that Colombia would advance, and blamed the Medellín-born Escobar for the loss. ¹
- In 1994, a comprehensive point shaving scheme organized by campus bookmaker Benny Silman and involving players from the Arizona State University men's basketball team was uncovered with the assistance of Las Vegas bookmakers, who grew suspicious over repeated large wagers being made against Arizona State. ^[1]
- On 10 February 1999, a plot to disable the floodlights of The Valley during a Charlton-Liverpool match was discovered. Three individuals were arrested, and the scam tracked to Malaysia, where the Premiership is very popular, and bets frequent. ¹
- In early 2000, Hansie Cronje, then highly-regarded captain of

the South African cricket team, rocked the cricketing world with frank admissions of match-fixing. Hansie admitted to receiving more than \$140,000 USD from London-based bookies to influence aspects of his team's performance. For example, he convinced Herschelle Gibbs to score less than 20 runs in a One Day International for a \$15,000 USD reward. Hansie received a lifetime ban from any involvement in professional cricket but he maintained throughout his numerous trials that he never conspired to fix overall match results. He died tragically in a plane crash in 2002, leaving behind many unanswered questions and a tainted legacy.

- In late 2004, the game between Panionios and Dinamo Tbilisi in the 2004-05 UEFA Cup was suspected of being fixed after British bookmakers detected an unusually high number of half-time bets for a 5-2 win for the Greek side, which was trailing 0-1. As the final result ended up being 5-2, suspicions of fixing quickly emerged, but were quickly denied by both clubs, although UEFA started an investigation. [1](#) [2](#)
- The Italian Football Federation said in October 2000 it had found eight players guilty of match-fixing. Three were from Serie A side Atalanta and the other five played for Serie B side Pistoiese. The players were Giacomo Banchelli, Cristiano Doni and Sebastiano Siviglia (all Atalanta) and Alfredo Aglietti, Massimiliano Allegri, Daniele Amerini, Gianluca Lillo and Girolamo Bizzarri (all Pistoiese). The charges related to an Italian Cup first round tie between the two sides in Bergamo on August 20, 2000 which ended 1-1. Atalanta scored at the end of the first half and Pistoiese equalised three minutes from full time. Atalanta qualified for the second round. Snai, which organises betting on Italian football, said later it had registered suspiciously heavy betting on the result and many of the bets were for a 1-0 halftime score and a fulltime score of 1-1.
- In early 2005, the German Football Association (DFB) revealed that referee Robert Hoyzer was under investigation for suspected betting on a first-round German Cup tie between regional league side Paderborn and Bundesliga club Hamburger SV in August 2004, and possibly fixing the match. In the match, HSV took a 2-0 lead, but Hoyzer sent off HSV striker Emile Mpenza in the first half for alleged dissent (a sending-off that many observers considered unwarranted), and later awarded Paderborn two dubious penalties. Paderborn went on to win 4-2. ¹ Several days later, Hoyzer admitted to having fixed that match, as well as several others he worked. He went on to implicate other referees and several players in the scandal.

Hoyzer himself was arrested on February 12 after evidence emerged that he may have fixed more matches than he had admitted to fixing. On February 16, UEFA announced that it would send an investigator to Athens to investigate possible links between this scandal and the aforementioned Panionios-Dinamo UEFA Cup tie. ² Eventually, Hoyzer was sentenced to 2 years and 5 months in prison. The Croatian betting syndicate which had paid Hoyzer to fix matches was also found to be linked to the Panionios-Dinamo match.

- In late September 2005, two referees (Edilson Pereira de Carvalho and Paulo Jose Danelon) were accused of fixing several matches in the São Paulo championship for a internet betting ring that moved over USD100,000 on each match day, receiving around USD 4,400 for each match ¹. In the following days, Armando Marques, president of the national comission of referees resigned and Nagib Fayad and Vanderlei Pololi, two businessmen, were arrested as suspects of working as middlemen between the referees and the corruption ring. In early October, a court ordered that the matches where Carvalho was the referee would have to be replayed and free to the public ². No decision was made about Danelon's matches.

See also

- [gambling](#)
- [sportsbook](#)
- [bet exchange](#)
- [online gambling](#)

[Bet Exchange](#) | [Sportsbook](#) | [Spread Betting](#)

Bet Exchange

A **betting exchange** or p2p gambling website is a fairly recent Internet phenomenon, and is used to describe a website acting as a broker between parties for the placement of bets ([gambling](#), in other words). The concept is similar to that of a stock exchange or a futures exchange, where in this case the commodity being traded is a **bet**, rather than a stock or futures contract. Most betting on a betting exchange is a form of fixed odds gambling.

History

The concept was first brought to the public by the UK website Flutter.com in May 2000 in person-to-person betting form, followed closely by UK-based Betfair in June 2000. Betfair embraced a pure exchange model - one Flutter later adopted and even improved upon in places - but first-mover advantage proved decisive for Betfair. Though Flutter managed to climb to a reported 30% market share, Flutter's backers were content to broker a merger which left Betfair the dominant partner by a reported ratio of 84:16. Post merger, Flutter's customers were transferred to Betfair's system, which was later upgraded to embrace some of Flutter's functionality. Betfair went from strength to strength and controls a reported 90% of global exchange activity today. In late 2004, Betfair announced a rescue package which resulted in it absorbing the customers of Sporting Options, which had gone into administration with debts in excess of £5 million.

As with other types of exchanges, betting exchanges thrive on liquidity and customers tend to focus on the exchange where they are confident their bet can be paired up with a matching counterbet. Breaking with British tradition, Betfair uses decimal odds instead of fractional (traditional) odds because they are more popular globally. Some of its competitors (such as BackAndLay and, later, Betdaq) allow customers to use fractional or odds if they prefer.

Exchanges make their money by charging a commission which is calculated as a percentage of net winnings for each customer on each event, or *market*. Gamblers whose betting activities have traditionally been restricted by bookmakers (normally for winning too much money) have found these sites a boon since they are now able to place bets of a size unrestricted by the exchange - the only restriction is that one or more opposing customers need to be willing match their bets. Moreover, the odds available on a betting exchange are usually better than those offered by bookmakers in spite of the commission charged.

Exchanges have their limitations. Exchanges are not suited to unrestricted multiple parlay betting. Betfair does offer *accumulators* of their own construction, but these are limited in number. Users cannot determine the outcomes contained in accumulators themselves. Exchanges also tend to restrict the odds that can be offered to between 1.01 (1/100) and 1000 (999/1).

Unsurprisingly, Betfair's success has attracted a number of rivals. These include Matchbook, Betdaq, iBetx, and BackAndLay. Like Betfair, the heavily-funded Betdaq also charges a base rate of 5% commission, whereas iBetx has a 3% base and bargain basement outfit

BackAndLay charges 1%. Other exchanges include the Trade Exchange Network and their Intrade and Tradesports sites, which, instead of charging commission on net market profits, has transaction charges of five cents to \$10.

"Laying" an outcome

Exchanges also offer the opportunity to **lay** outcomes, which is to bet that a particular participant in an event will lose. This is the position bookmakers take when offering a bet for somebody to back that the participant will win.

For example, if someone thinks Team A will win a competition, he may wish to **back** that selection. A bookmaker offering the punter that bet would be **laying** that selection. The two parties will agree the backer's stake and the odds. If the team loses, the layer/bookmaker keeps the backer's stake. If the team wins, the layer will pay the backer winnings based on the odds agreed.

As every bet transacted requires a *backer* and a *layer*, and the betting exchange is not a party to the bets transacted on it, any betting exchange requires both backers and layers. Of course, the distinction is moot: A **layer** is always simply **backing** the opposite outcome. Laying the home team is the same as backing the visiting team to win or draw. Laying one horse in a race is just the same as backing all of the other horses to win.

Controversy

The fact gamblers can now lay outcomes on the exchanges has resulted in criticism from traditional bookmakers with much of the anger coming from the UK's "Big Three" - Coral, Ladbrokes and William Hill. These firms argue that granting who they consider to be anonymous punters the ability to bet that an outcome will not happen is causing corruption in sports such as [horse racing](#) (since it is much easier to ensure a horse will lose a race, the bookmakers reason).

Exchanges such as Betfair counter that, while corruption is possible on any gambling platform, the bookies' arguments are motivated not by concern for the integrity of sport but by commercial interests. Exchanges also assert they are well aware of who their customers are and Betfair in particular has noted that they have signed numerous agreements with governing bodies of sport including the Jockey Club, with whom they insist they will co-operate with fully if the latter suspects corruption to have taken place.

In the summer of 2004, Betfair provided data to investigators, including the City of London Police which on September 1 lead to 16 arrests on charges related to race fixing. Among those arrested was champion jockey Kieren Fallon, whose case remains before the courts.

See also

- [Sports betting](#)
- [Gambling](#)
- [Parimutuel gambling](#)
- [Spread betting](#)

Sportsbook

A **sportsbook** (sometimes abbreviated as book) or a **race and sports book** is a place where a [gambler](#) can wager on various sports competitions, including as football, basketball, baseball, hockey, soccer, [horse racing](#) and boxing. The method of betting varies with the sport and the type of game. The more prominent the event, the more wagering options that are made available.

Winning bets are paid when the event finishes or if not finished was played long enough to becomes official, otherwise all bets are returned. This policy can cause some confusion since there can be a difference between what the sportsbook considers official and what the sports leagues consider official. Customers should carefully read the sportsbook rules before placing their bets.

The period from the NBA finals until the first week of September every year is the slowest for sportbooks which primarily cater to American customers. They make the majority of their profits during football season.

Word Origin

A sportsbook is a portmanteau, French for "jacket holder," meaning a suitcase with two storage spaces. Sportsbook combines two meanings into one word for a sports [gambling](#) operation, in this case SPORTS and BOOK which is short for bookmaking.

Odds

In the mid 1930s, Leo Hirschfield started a company in Minneapolis, Minnesota called Athletic Publications, Inc., that published and distributed odds to bookies across the country by telephone and telegraph. He had a team of handicappers analyzing the

matchups who also studied newspapers across the country. The company was a major provider of odds and prices until it finally disbanded, under fear of prosecution from the Federal Wire Act of 1961.

Today most sportsbooks get their opening prices from other sportsbooks as well as private companies like Las Vegas Sports Consultants. They adjust prices based on the bets coming in, news, injury, and weather information, and the price movement by other sportsbooks.

Nevada Sportsbooks

Today there are roughly 150 licensed sportsbooks in the United States, all located in Nevada casinos. Now that many casinos share the same parent company, they offer the exact same wagering choices and odds, which is a disadvantage to the astute [gambler](#) who in the past could do more shopping for better prices.

In the 1950s the first Nevada sportsbooks, called turf clubs, opened. They were independent from the casinos, and had an informal agreement with the hotels that they would stay out of the casino business as long as the hotels stayed out of the sportsbook business. The sportsbooks had to pay a 10% tax so they charged a high vigorish to gamblers, but they still brought in a lot of business.

In 1974 the tax was lowered to 2%, (and in 1983 lowered to 0.25%), and in 1975 Lefty Rosenthal, who ran the Stardust Casino, convinced legislators to allow them in the casinos, and soon nearly all of the casinos added them. The turf clubs were no longer able to compete and eventually all closed.

In Nevada casino sportsbooks, such as Caesars Palace, you will find:

- Betting Windows
- Numerous big screen televisions
- Places to sit and watch
- Interactive betting stations
- Odds boards, usually computerized

Offshore Sportsbooks

Offshore sportsbooks, or sportsbooks located outside of the United States, is where the majority of sports bets are placed. Taxation and regulation vary greatly by country, but most of them offer convenient

internet wagering 24 hours a day.

Offshore sportsbooks range from fraudulent operations with no intention of paying their customers when they win, to multi-billion dollar publicly traded companies. Players share experiences and information with each other as there is often little or no legal recourse in the case of a dispute with an offshore sportsbook.

Offshore sportsbooks range in focus, as some primarily cater to American sports, while others focus on European Soccer. Some sportsbooks handle large wagers while others have low wagering limits. Some offer many exotic proposition wagers, where others have limited choices. Payment methods are not universally accepted at all sportsbooks.

Costa Rica is home to the majority of offshore sportsbooks, as it caters to many of the needs of the industry. They offer an open regulatory environment and a large, capable workforce. In England, gambling reform is cause for expected industry growth within. Sportsbooks are also located in Jamaica, Gibraltar, Antigua, Curaçao, Australia, as well as many other countries around the world.

The United States Justice Department claims that wagering at offshore sportsbooks is a violation of the 1961 Federal Wire Act. They have made many attempts to attack the offshore sportsbooks, all of which operate out of their jurisdiction, by threatening advertisers, financial transaction processors (PayPal, for example), and credit card companies with legal action.

Jeffrey Trauman of Harwood, North Dakota, was the first *player* ever to be prosecuted for online gambling in the United States. The former car salesman, who quit his job to become a professional gambler, was cited under a North Dakota state law.

Internet Sportsbooks

While internet sportsbooks lack face-to-face transactions, they can handle more customers than land based sportsbooks and operate more cost effectively. They pass lower costs on to customers in the form of reduced vigorish (cheaper prices) or bonus incentives. They can also offer similar products, such as casino games, bingo, and poker to their existing clients.

See also

- [sports betting](#)
- [betting exchanges](#)

- [gambling](#)
- [online gambling](#)

Spread Betting

Spread betting is a form of [gambling](#) on the outcome of any event where the more accurate the gamble, the more is won and conversely the less accurate the more is lost. A bet is made against a 'spread' (or index), on whether the outcome will be above or below the spread. The amount won or lost depends on the level of the index at the end of the event. The spread represents the index firms' margin.

The concept has a long history in American sports betting and was exported to the United Kingdom in the 1980s. In North America the bettor usually bets that the difference in the scores of two teams will be less than or greater than a value specified by the bookmaker. For example, if a bettor places a bet on an underdog in an American football game when the spread is 3.5 points, he is said to *take the points*; he will win his bet if the underdog's score plus 3.5 points is greater than the favourite's score. If he had taken the favourite, he would have been *giving the points* and would win if the favourite's score less 3.5 points was greater than the underdog's score.

Spreads may be specified in half-point fractions to avoid ties, or *pushes*. The winner of a North American spread bet wins the amount that he has bet, while a losing bettor loses the amount wagered plus the bookmaker's commission, which is commonly known as the *vigorish* or *vig*, and is usually 10 per cent of the original wager; in the United Kingdom both sides are held at odds of 9-10. In North American betting a push is treated as if no bet at all had been made, while in the United Kingdom "dead heat" rules apply, resulting in a net loss of £5 on a £100 wager due to the 9-10 odds of the proposition.

If a key player on a side is marginally injured and may or may not play, the "sports book" — or establishment that handles the bets — may declare the game off-limits to bettors (by not quoting any spread at all on it), or may "circle" the game; in the latter scenario, lower maximum amounts for each bet are enforced (typically \$5,000 instead of the \$25,000 limit observed at most Las Vegas sports books) and certain specialty wagers, such as "teasers," are banned on either side in the game. (A "teaser" is a bet that alters the spread in the bettor's favour by a predetermined margin, often six points - for example, if the line is 3.5 points and the bettor wants to place a "teaser" bet on the underdog, he takes 9.5 points instead; a teaser bet on the favourite would mean that the bettor takes 2.5 points instead of having to give

the 3.5. In return for the additional points, the payout if the bettor wins is less than even money. At some establishments, the "reverse teaser" also exists, which alters the spread against the bettor, who gets paid off at more than even money if the bet wins.)

In the United Kingdom spread betting has come to resemble the futures market. The bets are usually on the outcome of sporting events or indeed on financial instruments, but the firms often offer bets on more arbitrary events - such as the number of corners during a football match or the total shirt numbers of the goal scorers.

Unlike fixed odds betting the amount won or lost can be very large, as there is no single stake to limit the maximum losses. However, it is usually possible to place a "stop loss" with the bookmaker, automatically closing your bet if the value of the spread moves against you by a specified amount. "Stop wins" are the opposite -- closing your bet when the spread moves in your favour by a specified amount.

Example: In a soccer match between Liverpool and Everton the spread for corners is 12-13, the index firm believes there will be 12 or 13 corners in total during the match. A bettor approaches the firm with the belief that there will be more than 13 corners during the game, the bettor 'buys' at £25 a point at 13. If the final total of corners is 16 the bettor has won, receiving $3 \times £25$. If the final total of corners is 10, the bettor loses $3 \times £25$. A 'sell' transaction is similar except made against the bottom value of the spread. Often there is live pricing, which changes the spread during the course of an event allowing a profit to be increased or a loss minimized.

In North American sports betting many of these wagers would be classified as *over-under* (or, more commonly today, *total*) bets rather than spread bets. However, these are for one side or another of a total only, and do not increase the amount won or lost as the actual moves away from the bookmaker's prediction. Instead, over-under or total bets are handled much like point-spread bets on a team, with the usual 10% commission applied. Many Nevada sports books will allow these bets to be used in parlays, just like team point-spread bets, making it possible to bet, for instance, "the Packers and the over," and be paid if *both* the Packers "cover" the point spread and the total score is higher than the book's prediction. (Such parlays usually pay off at odds of 13:5 with no "vig," just as a standard two-team parlay would.)

Many spread firms will close your account if you win regularly.

The mathematical analysis of spreads and spread betting is a large and growing subject. For example, sports which have simple 1 point scoring systems (e.g. baseball, hockey, and soccer) may be analysed using Poisson and Skellam statistics.

See also

- [Bet exchange](#)
- [Parimutuel betting](#)
- [Sports betting](#)

Horse Racing

Horse racing is an equestrian sporting activity which has been practiced over the centuries; the chariot races of Roman times were an early example, as was the contest of the steeds of the god Odin and the giant Hrungnir in Norse mythology. It is often inextricably associated with the activity of wagering on the outcome of a race, [gambling](#).

The principal form of horseracing, which is popular in many parts of the world, is thoroughbred racing. Harness racing is somewhat popular in the United States, Canada, Australia, France, Italy and Scandinavia, and to a lesser extent elsewhere. Quarter horse racing is also popular in the United States.

The breeding, training and racing of horses in many countries is now a significant economic activity as, to a greater extent, is the gambling industry which is largely supported by it. Exceptional horses can win millions of dollars and make millions more by providing stud services, such as horse breeding.

The style of racing, the distances and the type of events varies very much by the country in which the race is occurring, and many countries offer different types of horse races.

In the United Kingdom for example, there are races which involve obstacles (either hurdles or fences) called National Hunt racing and those which are unobstructed races over a given distance (flat racing). The UK has provided many of the sport's greatest ever jockeys, most notably Gordon Richards. See also [United Kingdom horse-racing](#).

In the United States, races can occur on flat surfaces of either dirt or grass, generally thoroughbred racing; other tracks offer quarterhorse racing and harness racing, or combinations of these three types of racing. Racing with other breeds, such as Arabian horse racing, is found on a limited basis. American thoroughbred races are run at a wide variety of distances, most commonly from 4.5 furlongs (905 m) to 1½ miles (2414 m); with this in mind, breeders of thoroughbred race horses are able to breed horses to excel at a particular distance (see [Dosage Index](#)).

The high point of US horse racing has traditionally been the Kentucky Derby which, together with the Preakness Stakes and the Belmont Stakes, form the Triple Crown for three-year-olds. However, in recent years the Breeders' Cup races, held at the end of the year, have been challenging the Triple Crown events, held early in the year, as determiners of the three-year-old champion. They also have an important effect on the selection of other annual champions.

The corresponding standardbred event is the Breeders' Crown. There are also a Triple Crown of Harness Racing for Pacers and a Triple Crown of Harness Racing for Trotters.

American betting on horse racing is sanctioned and regulated by state governments, almost always through legalized [parimutuel gambling](#).

Thoroughbred horse racing in the United States has its own Hall of Fame for horses, jockeys, and trainers.

While the attention of horseracing fans and the media is focused almost exclusively on the horse's performance on the racetrack or for male horses or possibly its success as a sire, but little publicity is given the brood mares. Such is the case of La Troienne, one of the most important mares of the 20th century to whom many of the greatest thoroughbred champions, and dams of champions can be traced.

In Australia the most famous horse is Phar Lap. However, this horse is from New Zealand, as was Cardigan Bay, a pacing horse who enjoyed great success at the highest levels of American harness racing in the 1960s. Racing in Australasia has enjoyed great success with races such as the Melbourne Cup, which has recently been attracting many international entries. See also: Australian horse-racing.

The most famous horses from Canada are Northern Dancer, who after winning the Kentucky Derby and Preakness went on to become the most successful Thoroughbred sire ever, and his son Nijinsky II. In Canada, however, harness racing is more popular than Thoroughbred racing. Woodbine Racetrack in Toronto, home of the Queen's Plate, Canada's premier thoroughbred stakes race, and the North America Cup, Canada's premier standardbred stakes race, is the only race track in North America which stages Thoroughbred and Standardbred (harness) meetings on the same day. The North America Cup has the largest purse of any Canadian horse race.

In Ireland, noted for its great racing history, the Derby winning Thoroughbred race horse Shergar was kidnapped on February 8, 1983. He has never been found.

[Parimutuel](#)

Parimutuel

Parimutuel betting (from the French language: *pari mutuel*, mutual betting) is a betting system in which all bets of a particular type are placed together in a pool; taxes and a house **take** are removed, and payoff odds are calculated by sharing the pool among all placed bets.

The parimutuel system is used in **gambling** on **horse racing**, greyhound racing, jai alai, and all sporting events of relatively short duration in which participants finish in a ranked order. A modified parimutuel system is also used in some lottery games such as Lotto South.

Parimutuel gambling is frequently state-regulated, and offered in many places where gambling is otherwise illegal. Parimutuel gambling is often also offered at "off track" facilities, where players may bet on the events without actually being present to observe them in person.

Parimutuel betting differs from fixed odds betting in that the final payout is not determined until the pool is closed – in fixed odds betting, the payout is agreed at the time the bet is sold.

Example of parimutuel betting

Consider a hypothetical event in a country using a decimal currency such as dollars which has 8 possible outcomes. Each outcome has a certain amount of money wagered:

Outcome 1 – \$30.00

Outcome 2 – \$70.00

Outcome 3 – \$12.00

Outcome 4 – \$55.00

Outcome 5 – \$110.00

Outcome 6 – \$47.00

Outcome 7 – \$150.00

Outcome 8 – \$40.00

Thus the total *pool* of wagered money on the event is \$514.00. Following the start of the event, no more investments are accepted. The event is decided and the winning outcome is determined to be Outcome 4 with \$55.00 invested. The *payout* is now calculated. First the *commission* or *take* for the wagering company is deducted from the pool, for example with a commission rate of 14.25% the calculation is: $514 - 0.1425 * 514 = 440.76$. The remaining amount in the pool is now distributed to those who invested in Outcome 4: $440.76 / 55 = 8.00$ per \$1.00 invested. Thus, in decimal odds, outcome 4 is said to pay out \$8.00.

Often at certain times prior to the event, betting agencies will provide *approximates* for what should be paid out for a given outcome

should no more bets be accepted at the current time. Using the example above, an approximates table using the same commission rate in decimal odds would be:

Outcome 1 – \$14.69

Outcome 2 – \$6.30

Outcome 3 – \$36.73

Outcome 4 – \$8.00

Outcome 5 – \$4.00

Outcome 6 – \$9.38

Outcome 7 – \$2.94

Outcome 8 – \$11.02

In real-life examples such as [horse racing](#), the pool size often extends into millions of dollars with many different types of outcomes (winning horses) and complex commission calculations.

Sometimes the amounts paid out are rounded down to a denomination interval – in the United States and Australia, 10 cent intervals are used. The rounding loss is sometimes known as *breakage* and is retained by the betting agency as part of the commission.

History of parimutuel betting

The parimutuel system was invented by Parisian perfume maker Pierre Oller in 1865 when asked by a bookmaker friend to devise a fair system for bettors which guarantees a fixed profit for the bookmaker.

The large amount of calculation involved in this system led to the invention of a specialized mechanical calculating machine known as a totalisator, "automatic totalisator" or "tote board". The first was installed at Ellerslie Racecourse, Auckland, New Zealand in 1913, and they came into widespread use at race courses throughout the world (the U.S. introduction was 1933 at Arlington Park, near Chicago, IL USA).

Parimutuel bet types

There may be several different types of bets, in which case each type of bet has its own pool. The basic bets involve predicting the order of finish for a single participant, as follows:

In North America

- Win - A first place finisher wins the bet.
- Place - Either a first or a second place finisher wins the bet (at

most tracks the race must have at least four runners in it for place betting to be conducted).

- Show - First, second, or third place finisher wins the bet (at most tracks the race must have at least five runners in it for show betting to be conducted).
- Across the Board: A combination triple-bet of Win, Place, and Show

In Australia

- Win - Runner must finish first.
- Place - Runner must finish first, second or third place. (In events with five to seven runners, no dividends are payable on third place ("NTD" or No Third Dividend) and in events with 4 or less runners, only Win betting is allowed).
- Each-way - A combination of Win and Place. A \$5 bet Each-way is a \$5.00 bet to Win and a \$5.00 bet to Place, for a total bet cost of \$10.

In Ireland and the United Kingdom

- Win - Runner must finish first.
- Place - Runner must finish within the first two places (in a 5-7 runner race), three places (8-15 runners) or four places (16+ runners).
- Each-way - Charged and settled as one bet to win and another bet to place (if asking for a bet of "five pounds each way" you will be expected to pay ten pounds).

Depending on the facility rules, which might vary from event to event, other bets may also be offered which allow the user to pick the finish of more than one participant, or more than one event. These are called **exotics**, and generally pay higher dividends. However, the facility's take is usually higher for these bets as well. The major exotics (in North America and Australia) are:

- Exacta (exactor, perfecta) - Picks the first and second place finishers, in order.
- Quinella - Picks the first and second place finishers, in either order.
- Trifecta (triator) - Picks the first, second, and third place finishers, in order.
- First Four - First, second, third and fourth in correct order.
- Superfecta - First four finishers in order.
- Daily/Extra Double - Picks the first place finishers in two

different events.

- Quadrella - First in four consecutive races.
- Pick 6 (jackpot) - Picks the winners in six consecutive events.

Strategy and comparison with independent bookmakers

Unlike many forms of [casino](#) gambling, in parimutuel betting the gambler bets against other gamblers, not the house. The science of determining the outcome of a race is called handicapping.

It is possible for a skilled player to win money in the long run at this type of gambling, but overcoming the deficit produced by taxes, the facility's take, and the breakage is difficult to accomplish and few people are successful at it.

Independent off-track bookmakers have a smaller take and thus offer better payoffs, but they are illegal in some countries. However, with the introduction of [Internet gambling](#) has come "rebate shops". These off-shore betting shops in fact return some percentage of every bet made to the bettor. They are in effect reducing their take from 15-18% to as little as 1 or 2%, still ensuring a profit as they operate with minimal overhead. Rebate shops allow skilled horseplayers to make a steady income.

See also

- [Bet exchange](#)
- [Spread betting](#)

Slot Machines

A **slot machine** (American English), **poker machine** (Australian English), or **fruit machine** (British English) is a certain type of [casino game](#). Classically, a slot machine is a coin-operated machine with three or more reels that rotate when a lever on the side of the machine is pulled. The machines include a currency detector that validates the coin or money inserted to play. (The slot machine is also known informally as a **one-armed bandit** because of its appearance.) The machine typically pays off based on patterns of symbols visible on the front of the machine when it stops. Modern computer technology

has resulted in many variations on the slot machine concept. Today, slot machines have become one of the most popular attractions in [casinos](#).

History

The first gambling machine was developed by Sittman and Pitt of Brooklyn in 1891. It contained 5 drums holding a total of 50 card faces and was based on [poker](#). They proved extremely popular and soon there was hardly a bar in the city that didn't have one or more of the machines bar-side. Players would insert a nickel and press a lever which would spin the drums and the cards they held, the player hoping for a good poker hand. There was no direct payout mechanism, so a pair of Kings might get you a free beer, whereas a Royal Flush could payout cigars or drinks, the prizes wholly dependant on what was on offer at the local establishment. In order to make the odds better for the house, two cards were typically removed from the "deck": the Ten of Spades and the Jack of Hearts, which cut the odds of winning a Royal Flush by half. The drums could also be re-arranged to further reduce a player's chance of winning.

The first "one-armed bandit" was invented in 1895 by Charles Fey of San Francisco, California, who devised a much simpler automatic mechanism. Due to the vast number of possible wins with the original poker card-based game, it proved practically impossible to come up with a way to make a machine capable of making an automatic payout for all possible winning combinations. Charles Fey devised a machine with three spinning reels containing a total of five symbols – horseshoes, diamonds, spades, hearts and a Liberty Bell, which also gave the machine its name. By replacing ten cards with five symbols and using three reels instead of five drums, the complexity of reading a win was considerably reduced, allowing Fey to devise an effective automatic payout mechanism. Three bells in a row produced the biggest payoff, ten nickels. *Liberty Bell* was a huge success and spawned a thriving mechanical gaming device industry. Even when the use of these gambling devices was banned in his home State after a few years, Fey still couldn't keep up with demand for the game elsewhere.

Another early machine gave out winning in the form of fruit flavoured chewing gums with pictures of the flavours as symbols on the reels. The popular cherry and melon symbols derive from this machine. The "BAR" symbol now common in slot machines was derived from an early logo of the Bell-Fruit Gum Company. In 1964, Bally developed the first fully electromechanical slot machine called

Description

A person playing a slot machine purchases the right to play by inserting coins, cash, or in newer machines, a bar-coded paper ticket (known as "ticket in/ticket out" machines), into a designated slot on the machine. The machine is then activated by means of a lever or button, or on newer machines, by pressing a touchscreen on its face. The game itself may or may not involve skill on the player's part — or it may create the illusion of involving skill without actually being anything else than a game of chance. The object of the game is to win money from the machine. The game usually involves matching symbols, either on mechanical reels which spin and stop to reveal one or several symbols, or on a video screen. The symbols are usually brightly colored and easily recognizable, such as images of fruits, and simple shapes such as bells, diamonds, or hearts.

Most games have a variety of winning combinations of symbols, often posted on the face of the machine. If a player matches a combination according to the rules of the game, the slot machine pays the player cash or some other sort of value, such as extra games.

There are many different kinds of gambling slot machines in places such as Las Vegas. Some of the most popular are the [video poker](#) machines, in which players hope to obtain a set of symbols corresponding to a winning [poker](#) hand. There are standard 5-card draw machines, all the way up to 100-play machines, where you can play 100 hands at a time.

Becoming more popular now are the 9 line slots. Usually these are themed slots (*Addams Family*, *I Dream of Jeannie*, etc.) with a bonus round. Most accept variable amounts of credit to play with 1 to 5 credits per line being typical. The higher the amount bet, the higher the payout will be.

Of course, there are the standard 3 - 5 reel slot machines, of various types. These are the typical "one-armed bandits".

One of the main differences between video slots and reel slots is in the way payouts are calculated. With reel slots, the only way to win the maximum jackpot is to play the maximum number of coins (usually 3, sometimes 4, or even 5 coins per spin). With video slots, the fixed payout values are multiplied by the number of coins per line that are being bet. In other words: on a reel slot, it is to the player's advantage to play with the maximum number of coins available. On video slots, it is recommended to play as many individual lines as possible, but there is no benefit to the player in betting more than one

credit per line with regards to calculating the payout amounts. (There are some isolated cases where a video slot machine requires the maximum number of credits per spin to be inserted to win the largest payout, but those are the exception.) *An example: On the "Wheel of Fortune" reel slot, the player must play 3 coins per spin to be eligible to trigger the bonus round and possibly win the jackpot. On the Wheel of Fortune video slot, the chances of triggering the bonus round or winning the maximum jackpot are exactly the same regardless of the number of coins bet on each line.*

Larger casinos offer slot machines with denominations from \$.01 (penny slots) all the way up to \$100.00 or more per credit. Large denomination slot machines are usually cordoned off from the rest of the casino into a "High Limit" area, often with a separate team of hosts to cater to the needs of the high-rollers who play there.

Slot machines common in casinos at this time are more complicated. Most allow players to accept their winnings as credits which may be "spent" on additional spins.

In the last few years, new slot machines commonly known as "multi-denomination" have been introduced. In a multi-denomination slot machine, the player can choose the value of each credit wagered from a list of options. Based upon the player's selection, the slot machine automatically calculates the number of credits the player receives in exchange for the cash inserted and displays the amount of available credits to the player. (For example, a player could choose to wager one dollar per game on a nickel slot machine.) This eliminates the need for a player to find a specific denomination of a particular slot machine; they can concentrate on simply finding the machine and setting the denomination once they decide to play.

Recently, some casinos have chosen to take advantage of a concept commonly known as "tokenization": 1 token buys more than one credit. A casino can configure slot machines of numerous different denominations to accept the same type of token. (For example, all penny, nickel, quarter, and dollar slot machines could be configured to accept dollar tokens.) This significantly reduces a casino's inventory costs and coin handling costs. A tokenized slot machine automatically calculates the number of credits the player receives in exchange for the token inserted and displays the amount of available credits to the player. When a player chooses to collect his credits (by pressing a "Cash Out" button), the slot machine will automatically divide the number of credits on the credit meter by the value of one token and return the result to the patron. Any remainder is known as "residual credits" and cannot be collected. Residual credits must be either played or abandoned.

Terminology

A **coin hopper** is a container where the coins that are immediately available for payouts are held. The hopper is a mechanical device that rotates coins into the coin tray when a player collects his credits/coins (by pressing a "Cash Out" button). When a certain preset coin capacity is reached, a coin diverter automatically redirects, or "drops", excess coin into a "drop bucket" or "drop box".

A **drop bucket** or **drop box** is a container located in a slot machine's base where excess coins are diverted from the hopper. Typically, a drop bucket is used for low denomination slot machines and a drop box is used for high denomination slot machines. A drop box contains a hinged lid with one or more locks whereas a drop bucket does not contain a lid. The contents of drop buckets and drop boxes are collected and counted by the casino on a scheduled basis.

Shortpay refers to a payout made by a slot machine, less than the amount indicated by the payout schedule. Occurs when the coin hopper becomes depleted during a payout and the remaining amount is paid to the player by a hand pay.

Hand Pay is when the slot attendant or cage gives the player a cash payout, rather than the actual slot machine paying out from the coin hopper. A hand pay may be automatically requested by the slot machine if the total credits on the machine is greater than a certain number of coins (typically 1,000).

A **hopper fill slip** is a document used to record the replenishments of the coin in the coin hopper which are required as a result of payouts to players. The slip indicates the amount of coin placed into the hoppers, as well as the signatures of the employees involved in the transaction, the slot machine number and the location and the date.

Weight count is an American casino term, referring to the dollar amount of coins or tokens removed from a slot machine's drop bucket or drop box and counted by the casino's hand count team through the use of a weigh scale.

Optimal play is a payback percentage based on a gambler using the optimal strategy in a skill-based slot machine game.

The **Theoretical Hold Worksheet** is a worksheet provided by the manufacturer for all slot machines which indicates the theoretical percentage that the slot machine should hold based on adequate levels of coin-in. The worksheet also indicates the reel strip settings, number of coins that may be played, the payout schedule, the number of reels and other information descriptive of the particular type of slot machine.

Pay Table

Each machine has a table that lists the number of credits the player will receive if the symbols listed on the pay table line up on the pay line of the machine. Some symbols are wild and will pay if they are visible in any position, even if they are not on the pay line. Especially on older machines, the pay table is listed on the face of the machine, usually above and below the area containing the wheels. Most video machines display the pay table when the player presses a "pay table" button or touches "pay table" on the screen; some have the pay table listed on the cabinet as well.

Technology

It is a common belief that the odds on a machine have something to do with the number of each kind of symbol on each reel, but in modern slot machines this is no longer the case. Modern slot machines are computerized, so that the odds are whatever they are programmed to be. For instance, if the jackpot combination is "7-7-7", slot machine owners can fool/tease people by making "7-7-(non-7)" come up frequently. In modern slot machines, the reels and lever are present for historical and entertainment reasons only. The positions the reels will come to rest on are chosen by a Random Number Generator contained in the machine's software as soon as the lever is pulled or the "Play" button is pressed.

Slot machines are typically programmed to pay out as winnings between 82 to 98 percent of the money that is wagered by players. This is known as the "theoretical payout percentage". The minimum theoretical payout percentage varies among jurisdictions and is typically established by law or regulation. For example, the minimum payout percentage in Nevada is 75 percent and in New Jersey is 83 percent. The winning patterns on slot machines, the amounts they pay, and the frequency at which they appear are carefully selected to yield a certain percentage of the cost of play to the "house" (the operator of the slot machine), while returning the rest to the player during play. Suppose that a certain slot machine costs \$1 per spin. It can be calculated that over a sufficiently long period, such as 1,000,000 spins, that the machine will return an average of \$950,000 to its players, who have inserted \$1,000,000 during that time. In this (simplified) example, the slot machine is said to pay out 95%. The operator keeps the remaining \$50,000.

A slot machine's theoretical payout percentage is set at the factory

when the software is written. Changing the payout percentages after a slot machine has been placed on the gaming floor requires a physical swap of the software which is usually stored on an EPROM but may be downloaded to Non-Volatile Random Access Memory (NVRAM) or even stored on CD-ROM or DVD depending on the technological capabilities of the machine and the regulations of the jurisdiction. Based on current technology, this is a time consuming process and as such is done infrequently. In certain jurisdictions, such as New Jersey, the EPROM is sealed with a tamper-evident seal and can only be changed in the presence of the state Gaming Control Board. Other jurisdictions, including Nevada, randomly audit slot machines to ensure that they contain only approved software.

Often machines are linked together in a way that allows a group of machines to offer a particularly large prize, or "jackpot". Each slot machine in the group contributes a small amount to this progressive jackpot, which is awarded to a player who gets (for example) a royal flush on a video poker machine, or a specific combination of symbols on a regular or 9 line slot machine. The amount paid for the progressive jackpot is usually far higher than any single slot machine could pay on its own.

In some cases multiple machines are linked across multiple casinos. In these cases, the machines may be owned by the machine maker who is responsible for paying the jackpot. The casinos lease the machines rather than owning them outright. Megabucks may be the best known example of this type of machine. Megabucks Nevada starts at \$7,000,000 after a jackpot. The new penny *Megabucks* video game has a jackpot that starts at \$10,000,000.

Slot machines that are not linked to a large regional jackpot such as *Megabucks* usually have higher payout percentages, as linked machines have to take into consideration the large jackpot amount into their payout percentage calculations.

American slot machines

In the United States, the public and private availability of slot machines is highly regulated by state governments. Nevada is the only state that has no significant restrictions against slot machines both for public and private use. In New Jersey, slot machines are only allowed in hotel-casinos operated in Atlantic City. Several states (Illinois, Indiana, Iowa, Louisiana, Mississippi, and Missouri) allow slot machines (as well as any casino-style gambling) only on licensed riverboats or permanently anchored barges. Native American casinos on reservations cannot have true slot machines unless allowed by the

state that the tribal casino is located in (per Indian Gaming Act).

Some states have restrictions on the types of slot machines that can be used in a casino or other gaming area. "Class III" slot machines are machines without restrictions, most often seen in Las Vegas or Atlantic City (commonly referred to as "Vegas-style slots"). Some casinos are in states that require them to use "Class II" slot machines, which usually have a player skill requirement attached. The primary difference between a Class III machine and a Type II machine is that with a Class III machine, a player's chance of winning any payout is the same with every play, and each machine operates independently of each other. A Class II machine mimics bingo or scratch-off lottery tickets in that all the machines are linked to play against each other, pulling a predetermined number of winning combinations from a central database and distributing those to all machines.

For a list of state by state regulations on private slot machine ownership.

Slot clubs

Many American casinos offer free memberships in "slot clubs", which return a small percentage of the amount of money that is bet in the form of "comps" (complimentary food, drinks, hotel rooms, or merchandise), or sometimes as cash back (sometimes with a restriction that the cash be redeemed at a later date). These clubs require that players use a card that is inserted into the slot machine, to allow the casino to track the player's "action" (how much the player bets and for how long), which is often used to establish a level of play that may make a player eligible for additional comps. Comps or cash back from these clubs can make a significant difference in the maximum theoretical return when playing slot machines over a long period of time.

Australian slot machines

Generally referred to as **poker machines** or **pokies**, but officially known as 'Gaming Machines', Australia has one of the highest concentration of poker machines per head of population in the world, with changes in regulations leading to a profusion of poker machine venues across the country. Various objectors, including many branches of the clergy and also charities for the poor, have criticised the spread of the machines, as they claim that it has led to a huge rise in the levels of "problem gambling" - gambling to a level that causes financial and social stress to the gambler and their families, as well as

the general levels of gambling.

Australian-style poker machines use video displays to simulate (usually) five physical reels. These machines also have additional bonusing and second-screen features such as free games and bonus levels. They also allow for multiple lines (up to 50) or multiple ways (up to 243 ways) to be played. This higher level of complexity has meant that greater revenues can be obtained by operators, but also that the potential for problem gambling to develop is increased.

Poker machines are found in casinos (approximately one in each major city) as well as pubs and clubs (usually sports, social, or RSL clubs). This greater accessibility is also seen as a potential contributor to problem gambling.

The first Australian state to legalise this style of gambling was NSW in 1956 when they were made legal in all registered clubs in the state.

Most problem gamblers attending counselling through [Gamblers Help](#) report poker machines as the problematic form of gambling. Due to this there is a significant focus on the regulation of multi-hand poker machines, and many groups are advocating for legislative change.

Laws governing gambling in Australia are controlled at the state level and as such, they vary from state to state. In the state of Queensland gaming machines in pubs and clubs must provide a return rate of 60% while machines located in casinos must provide a return rate of 90%.

European slot machines

Slot machines are often known as **fruit machines** and AWP (Amusement with Prizes) in Britain. Slot machines are commonly found in pubs, clubs, arcades, and some take-away food shops. These machines commonly have 3 or 6 reels with around 16 or 24 fruit symbols printed around them. These reels are spun, and if certain combinations of fruit appear, winnings are paid from the machine, or subgames are played. These are very similar to slot machines seen in casinos and elsewhere around the world, but the term "fruit machine" is usually applied to a type of machine more commonly found in pubs and arcades. These games have lots of extra features, trails and subgames with opportunities to win money, usually more than can be won from just the reels. However, the jackpots from these fruit machines are strictly limited with many machines paying no more than a maximum of £25 in any one win.

It is known for machines to payout multiple jackpots, one after the

other, this is known as a **streak** but each jackpot requires a new game to be played (circumventing the maximum £25 pound per game rule). Private members clubs are allowed "club machines" which have higher jackpots.

These machines also operate in a different fashion to American slot machines; whereas slots are programmed to pay a percentage over the long-run, there is no reason why a jackpot cannot be paid straight after one has already been won - this is because over the long-run the percentage payout will be the same. However, in the UK, a fruit machine takes on an amount above its payout percentage before winning, so if a payout is 95%, a machine will make the player lose £10 before paying out £9.50. As such, it is sensible to watch for people playing these machines but not winning as the likelihood of a win increases. This, however, is called **Sharking**.

This type of fruit machine is popular across Europe (in the countries where they are legal), and very popular in countries such as the Czech Republic, Russia, and Ukraine.

The minimum payout percentage is 70% in Britain, with pubs often setting the payout at around 78%.

It has been alleged by the Fairplay campaign that UK fruit machines employ fraudulent techniques in which gambles and chances which appear to be random are in fact pre-determined and cannot be affected by player choices. [1](#)

...at this point, you'll have gambled the win up to £25. However, the machine doesn't want you to gamble any further. If from the 5 you select "High", the machine will spin in a 3 and you'll lose. If, on the other hand, you select "Low", the machine will spin in a 9 and you'll lose...

The claims centre around the emulation of fruit machine hardware on computers, which allow for the machines RAM state to be saved at a particular point and replayed making a different choice. The fruit machine industry has hit back at the allegations. Currently the issue has supposedly been considered by the UK Gaming Board (now the Gambling Commission) and warning notices and possibly modifications are to be put in place, though it is unclear as to whether this has happened.

Japanese slot machines

Japan has has a relatively new history in slot machines, roughly since after the American occupation during the World War II era. Most machines can be found in [Pachinko](#) parlors and the adult sections of amusement arcades, known as game centers.

The machines are regulated with IC chips, and has six different levels changing the odds of a "777". The levels provide a rough outcome of between 90% to an astonishing 160% (200% if using skills). Indeed, the Japanese slot machines are "beatable".

Despite the many varieties of the machines, there are certain rules and regulations put forward by a commission. For example, there must be three reels. Also, all reels must be accompanied by buttons which stop these reels, etc.

Myths debunked

- Standard slot machines do not get "hot" or "cold". The odds of hitting a winning combination are determined by a Random Number Generator contained in the machine's software and is exactly the same with every spin.
 - (Exception: UK-style AWP machines are **progressive** which means chances of winning will increase over time if the machine has not paid any wins out. Many also "force" wins on players in order to meet the **payout percentage**).
- Except possibly in a few jurisdictions, slot machines are never "due to be hit" if they haven't paid out a jackpot in a while.
- There is a science to the placement of slot machines on the gaming floor, but the highest paying machines are not necessarily placed in high-traffic areas. Typically, machines of similar payback percentages are grouped together, with 1% or less difference from machine to machine in the group.
- Using a slot club card does not affect the machine's payout percentage, but allows the casino to keep track of the amount wagered by a player and issue complimentary accordingly.
- In most jurisdictions, casinos cannot alter the machine's percentages by time of day, day of week, or remotely via a computer. Changing the percentage payouts on these machines is an involved process of physically replacing parts inside the machine, and in some jurisdictions cannot be done without regulatory oversight.
 - (Exception 1: UK-style AWP machines can have their percentage easily altered via a **percentage key** (inserted onto the machines motherboard) or by the setting of dip switches. There is no requirement for this to be supervised or reported in the UK.)
 - (Exception 2: In many markets where central monitoring and control systems are used to link machines for auditing and security purposes, usually in wide area networks of

multiple venues and thousands of machines, player return must usually be changed from a central computer rather than at each individual machine. A range of percentages are preprogrammed into the game software and selected by configuring the machine remotely.)

Addiction

- Slot machines, like other gambling devices and games, can be [addictive](#) to some individuals.

Unbeatable Games

[Baccarat](#) | [Craps](#) | [Roulette](#) | [Keno](#) | [Faro](#) | [Pachinko](#) | [Sic Bo](#) |
[Let It Ride](#) | [3-Card Poker](#) | [4-Card Poker](#) | [Red Dog](#) | [Pyramid Poker](#) |
[Caribbean Stud Poker](#) | [Spanish 21](#)

Baccarat

Baccarat is a [gambling card game](#). It is supposed to have been introduced into France from Italy during the reign of Charles VIII of France (ruled 1483-1498). There are three accepted variants of the game: *baccarat chemin de fer* (railway), *baccarat banque* (or a deux tableaux), and *punto banco* (or *North American baccarat*).

Baccarat (pronounced Back-a-rah) is a simple game with only three possible results - 'Player', 'Banker' and 'Tie'. The term 'Player' does not refer to the customer and the term 'Banker' does not refer to the house. They are just options on which the customer can bet.

Baccarat is an unusual game in that any score of 10 is worth 0 (or 'Baccarat'). The highest score that can be achieved is 9. Two picture cards would have a score of 0. A 9 and a 6 would not equal 15 but 5. (Minus the first digit) An ace counts as 1 and the rest of the cards retain their face value.

Punto Banco (North American Baccarat)

In the United States, Australia and Canada, a variation of baccarat

is played in which the [casino](#) banks the game at all times. Punters may bet on either the *player* or the *banker*, which are merely designations for the two hands dealt in each game.

The cards are dealt, one to the 'Player' first then to the 'Banker', 'Player' then 'Banker' again. Each has two cards. This is the initial deal. Both cards in each hand are added together and the croupier calls the total. (e.g. five to the 'Player', three to the 'Banker') From this position the 'Tableau' or table of play is used to determine if further cards need to be drawn. A maximum of three cards per hand may be drawn to achieve a winning hand. **Therefore the object of the game is to bet on the hand with the highest total.**

The Tableau is as follows:

Pictures and 10s count as 0. If the initial deal has a hand totalling 8 or 9 no further cards are drawn.

- If the 'Player' has an initial total of 0, 1, 2, 3, 4 or 5, the 'Player' draws another card.
- If the 'Player' has an initial total of 6 or 7, the 'Player' stands and draws no further card.
- If the 'Player' has an initial total of 8 or 9, this is a natural and neither the 'Player' nor the 'Banker' draw further cards.
- If the 'Banker' has an initial total of 0, 1 or 2, the 'Banker' draws another card.
- If the 'Banker' has an initial total of 3, the 'Banker' draws another card when the 'Player's' third card is anything but an 8.
- If the 'Banker' has an initial total of 4, the 'Banker' draws another card when the 'Player's' third card is a 2, 3, 4, 5, 6 or 7.
- If the 'Banker' has an initial total of 5, the 'Banker' draws another card when the 'Player's' third card is a 4, 5, 6, or 7.
- If the 'Banker' has an initial total of 6, the 'Banker' draws another card when the 'Player's' third card is a 6 or 7.
- If the 'Banker' has an initial total of 7, the 'Banker' stands and draws no further cards.
- If the 'Banker' has an initial total of 8 or 9, this is a natural and neither the 'Player' nor the 'Banker' draw further cards.
- If the 'Banker' has an initial total of 0, 1, 2, 3, 4 or 5 and the 'Player' has an initial total of 6 or 7 and stands, the 'Banker' draws another card.
- The 'Banker' must stand on 6 when the 'Player' has a 6 or 7 on the initial deal.

The croupier will deal the cards according to the tableau and the

croupier will announce the winning hand - either 'Player' or 'Banker'. Losing bets will be collected and the winning bets will be paid according to the rules of the house. Usually even money or 1-1 will be paid to the player and 95% to the 'Banker', 5% commission to the house. (Commission Baccarat) Some casinos pay even money or 1-1 to both 'Player' and 'Banker' except when the 'Banker' wins with a total of 6. Then the 'Banker' will be paid 50% or half the original bet.

Should both the 'Banker's' hand and the 'Player's' hand have the same value at the end of the deal the croupier shall announce "Egalite - tie bets win." All tie bets will be paid at the odds of 8-1 and the croupier shall not touch the bets on either 'Player' or 'Banker'.

The traditional form of punto banco baccarat is played at an oval table, similar to the *chemin de fer* version. The table is staffed by a [croupier](#), who directs the play of the game, and two dealers who collect and pay bets as well as tallying commissions due. Six or eight decks of cards are used, normally shuffled only by the croupier and dealers. Like *chemin de fer*, the shoe is passed around from player to player, who acts as the dealer of the cards and as "banker," but he or she does not actually bank the game. Indeed, the "banker" may bet on the player hand if he or she wishes, or may pass the shoe along to another player — the role of the "banker" is merely ceremonial. The person who bet the highest amount on the player hand is given the player-hand cards, though he or she simply turns the cards over, announcing their total. The croupier instructs the "banker" on if or when to deal third cards, and then announces the winning hand.

In casinos in Las Vegas and Atlantic City, this version of baccarat is usually played in special rooms separated from the main gaming floor, ostensibly to provide an extra measure of privacy and security because of the high stakes often involved. The game is frequented by the highest of high rollers, who may wager tens or hundreds of thousands of dollars on a single hand. Australian tycoon Kerry Packer is particularly fond of the game, having won and lost large sums over the years. Minimum bets are relatively high, often starting at 25 USD and going as high as 500 USD. Posted maximum bets are often arranged to suit a player, but maximums of 10,000 USD per hand are common

Despite its simplicity (or perhaps because of it), the punto banco version of baccarat offers some of the lowest house advantage available in a casino. The player bet has a house advantage of 1.24%, and the banker bet (despite the 5% commission) has an advantage of 1.06%. The tie bet has a much higher house advantage of 14.44%, based on six decks in play. [\[1\]](#)

Because of its attraction for wealthy players, a casino may win or lose millions of dollars a night on the game, and the house's fortunes

may even affect the bottom line of a corporation's quarterly profit and loss — notations of the effects of major baccarat wins and losses are frequent in the quarterly reports of publicly-traded gaming companies.

Mini-baccarat is essentially the same game, but played at a smaller table very similar to a blackjack table. A single dealer handles the entire game, including dealing the cards. The pace is usually much faster than the "big baccarat" version. Betting minimums and maximums are usually lower. In casinos outside of Las Vegas and Atlantic City, this is frequently the only version of baccarat that is offered.

Baccarat Chemin de Fer

Six full packs of cards of the same pattern are used, shuffled together. The players seat themselves round the table. In the centre is a basket for the reception of the used cards. If there is any question as to the relative positions of the players, it is decided by lot. The person who draws the first place seats himself next on the right hand of the [croupier](#), and the rest follow in succession.

The croupier shuffles the cards, and then passes them on, each player having the right to shuffle in turn. When they have made the circuit of the table, the croupier again shuffles, and, having done so, offers the cards to the player on his left, who cuts. The croupier places the cards before him, and, taking a manageable quantity from the top, hands it to the player on his right, who for the time being is dealer, or "banker." The other players are punters.

The dealer places before him the amount he is disposed to risk, and the players "make their stakes." Any punter, beginning with the player on the immediate right of the dealer, is entitled to say "Banco", meaning to "go bank," to play against the whole of the banker's stake. If no one does so, each player places his stake before him. If the total so staked by the seated players is not equal to the amount for the time being in the bank, other persons standing round may stake in addition. If it is more than equal to the amount in the bank, the punters nearest in order to the banker have the preference up to such amount, the banker having the right to decline any stake in excess of that limit.

The banker proceeds to deal four cards face downwards: the first, for the punters, to the right; the second to himself; the third for the punters, the fourth to himself. The player who has the highest stake represents the punters. If two punters are equal in this respect, the player first in rotation has the preference. Each then looks at his cards. If he finds that they make either nine, the highest point at Baccarat, or

eight, the next highest, he turns them up, announcing the number aloud, and the hand is at an end. If the banker's point is the better, the stakes of the punter become the property of the bank. If the punters' point is the better, the banker (or the croupier for him) pays each punter the amount of his stake.

The stakes are made afresh, and the game proceeds. If the banker has been the winner, he deals again. If otherwise, the cards are passed to the player next in order, who thereupon becomes banker in his turn.

If neither party turns up his cards, this is an admission that neither has eight or nine. In this case the banker is bound to offer a third card. If the point of the punter is baccarat (i.e. cards together amounting to ten or twenty, = 0), one, two, three, or four, he accepts as a matter of course, replying, "Yes," or "Card." A third card is then given to him, face upwards. If his point is already six or seven, he will, equally as a matter of course, REFUSE the offered card. To accept a card with six or seven, or refuse with baccarat, one, two, three, or four (known in either case as a "false draw"), is a breach of the established procedure of the game, and brings down upon the head of the offender the wrath of his fellow-punters; indeed, in some circles he is made liable for any loss they may incur thereby, and in others is punishable by a fine. At the point of five, and no other, is it optional to the punter whether to take a card or not; nobody has the right to advise him, or to remark upon his decision.

The banker has now to decide whether he himself will draw a card, being guided in his decision partly by the cards he already holds, partly by the card (if any) drawn by the punter, and partly by what he may know or guess of the latter's mode of play. If he has hesitated over his decision, the banker may be pretty certain (unless such hesitation was an intentional blind) that his original point was five, and as the third card (if any) is exposed, his present point becomes equally a matter of certainty. The banker, having drawn or not drawn, as he may elect, exposes his cards, and receives or pays as the case may be. Ties neither win nor lose, but the stakes remain for the next hand.

The banker is not permitted to withdraw any part of his winnings, which go to increase the amount in the bank. Should he at any given moment, desire to retire, he says, "I pass the deal." In such case each of the other players, in rotation, has the option of taking it, but he must start the bank with the same amount at which it stood when the last banker retired. Should no one present care to risk that high a figure, the deal passes to the player next on the right hand of the retiring banker, who is in such case at liberty to start the bank with such amount as he thinks fit, the late banker now being regarded as

last in order of rotation, though the respective priorities are not otherwise affected.

A player who has "gone bank," and lost, is entitled to do so again on the next hand, notwithstanding that the deal may have "passed" to another player.

When the first supply of cards is exhausted, the croupier takes a fresh handful from the heap before him, has them cut by the player on his left, and hands them to the banker. To constitute a valid deal, there must be not less than seven cards left in the dealer's hand. Should the cards in hand fall below this number, they are thrown into the wastebasket, and the banker takes a fresh supply as above mentioned.

Baccarat Banque

In Baccarat Chemin de Fer, it will have been noticed that a given bank only continues so long as the banker wins. So soon as he loses, it passes to another player. In Baccarat Banque the position of banker is much more permanent. Three packs of cards are shuffled together. (The number is not absolute, sometimes four packs, sometimes two only, being used; but three is the more usual number.) The banker (unless he retires either of his own free will or by reason of the exhaustion of his finances) holds office until all these cards have been dealt.

The bank is at the outset put up to auction, i.e. belongs to the player who will undertake to risk the largest amount. In some circles, the person who has first set down his name on the list of players has the right to hold the first bank, risking such amount as he may think proper.

The right to begin having been ascertained, the banker takes his place midway down one of the sides of an oval table, the croupier facing him, with the waste-basket between. On either side the banker are the punters (ten such constituting a full table). Any other persons desiring to take part remain standing, and can only play in the event of the amount in the bank for the time being not being covered by the seated players.

The croupier, having shuffled the cards, hands them for the same purpose to the players to the right and left of him, the banker being entitled to shuffle them last, and to select the person by whom they shall be cut. Each punter having made his stake, the banker deals three cards, the first to the player on his right, the second to the player on his left, and the third to himself; then three more in like manner. The five punters on the right (and any bystanders staking

with them) win or lose by the cards dealt to that side; the five others by the cards dealt to the left side. The rules as to turning up with eight or nine, offering and accepting cards, and so on, are the same as at Baccarat Chemin de Fer.

Each punter continues to hold the cards for his side so long as he wins. If he loses, the next hand is dealt to the player next following him in rotation.

Any player may "go bank," the first claim to do so belonging to the punter immediately on the right of the banker; the next to the player on his left, and so on alternatively in regular order. If two players on opposite sides desire to "go bank," they go half shares.

A player going bank may either do so on a single hand, in the ordinary course, or a cheval, i.e. on two hands separately, one-half of the stake being played upon each hand. A player going bank and losing may, again go bank; and if he again loses, may go bank a third time, but not further.

A player undertaking to hold the bank must play out one hand, but may retire at anytime afterwards. On retiring, he is bound to state the amount with which he retires. It is then open to any other player (in order of rotation) to continue the bank, starting with the same amount, and dealing from the remainder of the pack, used by his predecessor. The outgoing banker takes the place previously occupied by his successor.

The breaking of the bank does not deprive the banker of the right to continue, provided that he has funds with which to replenish it, up to the agreed minimum.

Should the stakes of the punters exceed the amount for, the time being in the bank, the banker is not responsible for the amount of such excess. In the event of his losing, the croupier pays the punters in order of rotation, so far as the funds in the bank will extend; beyond this, they have no claim. The banker, may, however, in such a case, instead of resting on his right, declare the stakes accepted, forthwith putting up the needful funds to meet them. In such event the bank thenceforth becomes unlimited, and the banker must hold all stakes (to whatever amount) offered on any subsequent hand, or give up the bank.

The laws of baccarat are complicated and no one code is accepted as authoritative, the different clubs making their own rules.

Craps

Craps (previously known as crabs) is a [casino gambling game](#) using [dice](#). Players wager money against the casino on the outcome of

one roll, or of a series of rolls of two dice.

Craps can also be played in less formal settings and is said to be popular among soldiers. In such situations side bets are less frequent, with one or several participants covering or "fading" bets against the dice.

The basic game

The basic game of craps is very simple. The most fundamental bet is the "pass line" wager, which almost everyone on a given game may make. On the first roll of the two dice (the **come-out roll**), the pass line bettors, or "right" bettors win by rolling either a 7 or 11 (a **natural**). If the shooter, or any other player, has a bet on the pass-line, he would win on the natural. Rolling **craps** (2, 3, or 12) loses immediately for the pass line bettor. Any other number (4, 5, 6, 8, 9, or 10) is called the **point**. To win, the pass-line bettor must roll the point number again before rolling a 7. If a 7 comes up before the point number, the shooter has **sevens-out** and the dice fail to pass. The shooter relinquishes the right to shoot when he or she sevens out, and the player to the left shoots next, beginning a new come-out sequence.

On any come-out roll, the shooter or any other player may also choose to place a don't pass wager, betting against the dice. This method, called "betting wrong," is by no means morally inferior to "right betting." In fact, the don't pass offers a lower house edge than pass line betting, and features the same free odds bet after a point is established. The bet works exactly like the opposite of the pass line wager, with the don't-pass bettor losing on the come-out when a natural is rolled. The don't bettor wins when a craps is rolled on the come-out, except on the roll of a barred craps, where the bet is a stand-off or push. Usually casinos bar the 2 or 12 craps, but beware a house which bars the 3 craps, as this practice doubles the house edge on the don't pass wager. The barred number is where the house derives its advantage by not paying the designated craps roll. Converse to pass-line betting, the wrong bettor wins on 7-outs and loses when a point is made.

A casino craps table is run by four casino employees: a **boxman** who guards the chips, supervises the dealers and handles coloring out players; two **dealers** who stand to either side of the boxman and collect and pay bets; and a **stickman** who stands directly across the table from the boxman and announces the results of each roll and then collects the dice with an elongated wooden stick. He is also in charge of managing the bets made on the center of the table (hardways, yo, horn, etc). For clarity, the number 11 is referred to as "yo" so as not to

be confused with the number 7.

A new **shooter**, who must bet the table minimum on either the **pass line** or the **don't pass line** to play, is given five dice by the **stickman** and picks two.

When the shooter rolls the dice, the dealers will usually insist that the dice be rolled with one hand and that they bounce off the wall surrounding the table. These requirements are meant to retard cheating attempts by switching the dice or making a "controlled shot." If a die leaves the table, the shooter will usually be asked to select another die from the remaining three but can request using the same die if it passes the boxman's inspection. This requirement is used in an effort to reduce cheating the game by substituting loaded dice for the regulation dice.

Types of craps bets

The fundamental bet in craps is the **pass line** bet, in which one bets that the dice will **pass** (that is, roll the point number before rolling a 7). The following discussion assumes that the shooter, as is usually the case, is betting on the pass line.

If a point is made, most casinos allow pass line bettors to take **odds** by placing from one to five times (and at some casinos, up to 100 times) the pass line bet behind the line. This additional bet pays at the true odds, 2-to-1 if 4 or 10 is the point, 3-to-2 if 5 or 9 is the point, and 6-to-5 if 6 or 8 is the point. While the house has a small (1.4%) advantage on pass line bets, the house has no advantage at all on odds bets. Therefore, taking the maximum odds (which vary by casino) can lower the house percentage for any given bet down to as low as 0.5%.

Odds bets in craps are one of the few bets offered at a casino that are completely free of any house advantage. Another such bet is the "double-up" option offered to the player in some forms of [video poker](#) after winning a hand.

Let's see why that is. There are 36 possible permutations (ways to roll a pair of 6-sided dice):

1-1 = 1 way to make a 2
1-2 2-1 = 2 ways to make a 3
1-3 2-2 3-1 = 3 ways to make a 4, true odds pays
2-1 1-4 2-3 3-2 4-1 = 4 ways to make a 5, true odds pays
3-2 1-5 2-4 3-3 4-2 5-1 = 5 ways to make a 6, true odds pays
6-5 1-6 2-5 3-4 4-3 5-2 6-1 = 6 ways to make a 7
2-6 3-5 4-4 5-3 6-2 = 5 ways to make an 8, true odds pays
6-6 3-6 4-5 5-4 6-3 = 4 ways to

make a 9, true odds pays 3-2 4-6 5-5 6-4 = 3 ways to
make a 10, true odds pays 2-1 5-6 6-5 = 2 ways to
make an 11 6-6 = 1 way to make a 12

There are a total of 36 possible combinations. So on the come-out roll there are 8 ways to win, 4 ways to lose and $(36-12=)$ 24 ways to start a point.

The odds of making the point are the ratio of the number of ways to make a 7 to the number of ways to make the point. For example, there are five ways to make a 6 or 8, so the odds of making a point of 6 or 8 are 6-5. Therefore an odds bet of \$5 on 6 or 8 pays out \$6.

Most experienced craps players only make pass line and odds bets since the odds are much more favourable to the player than any other bets in craps, and in fact most casino games.

The rules for the **come** wagers are the same as for the **pass** line except that they can only be made after the come-out roll. Effectively, they represent starting a new game using the same stream of numbers being generated by the existing (pass line) game.

Because of the **come** bet, if the shooter makes their point, a player can find themselves in the situation where they have a **come** bet with odds on it, and yet be rooting for the shooter to roll a 7 on their next come-out roll. Because of this, it is usual that odds bets on **come** wagers are presumed to be **not working**. That means that if the shooter rolls a 7 on the **come-out** roll, any players with active **come** bets lose their initial wager but will have their odds money returned to them, unless they tell the dealer that they want their odds **working**. Conversely, if the shooter rolls a number that matches an active come bet, the original bet is paid off at even money and the odds money is returned to the player (unless they told the dealer that they wanted their odds working, in which case they are paid at the true odds).

There is also a **don't come** box in which one can place bets that the dice will not pass on the next sequence starting with the immediate roll as a virtual come-out roll; even the shooter may bet that he or she will miss out. **Don't pass** and **don't come** bets are basically the opposite of **pass** and **come** bets; the player is betting that a 7 will be rolled before the point. On the come-out roll a 7 or an 11 is a loss, whereas a 3 and either a 2 or a 12 is a win. Casino craps layouts **bar** either 2 or 12 on the **don't pass** and **don't come** bets. This means that if 2 is barred and the shooter rolls a 2 on the come-out roll, the wager is a stand off and the player's money is returned.

When betting against the shooter, the bettor must put up the long side of the bet. Thus a **don't pass** bettor who bets \$10 when the point is a 4 could place an odds bet of \$20 behind the line. If the shooter

rolls a 7 before achieving their point, the bettor would receive \$10 for the **don't pass** bet plus \$10 for their odds bet. Even though the house advantage on the **don't pass** and **don't come** bets are almost identical to the **pass line** and **come** bets, for most players the disadvantage of putting up the long side of the bet makes the **don't pass** line less desirable. Additionally, many craps players consider **don't pass** and **don't come** bets to be in poor taste, or even "taboo".

Other types of bets

One roll bets that the shooter will make an 11 (pays 15-1, actual odds 17-1); Bets that a shooter will make a **hardway** number such as 4-4 (before throwing a 7 or an 8 the **easy way** such as 6-2 or 5-3) (pays 9-1, actual odds 10-1). Indeed you can bet on any combination of the dice on the next roll, this is called a **hop** bet, example *hard 8 on the hop* pays 31-1 (actual odds 35-1).

Craps is a bet that the shooter will roll 2, 3 or 12 on the next roll. The true odds are 8-1 and the casino pays 7-1.

C & E is actually two bets. A player is betting one unit on *craps* and another unit on 11. One of the two bets will always lose, and the other will pay off as above.

Horn is a bet that involves betting on 1 unit each for 2, 3, 11 and 12 at the same time for the next roll. Most players do a "Horn High" bet which involves betting an additional \$1 on one of the 4 choices, with the most frequent being a \$5 "horn high yo" bet (which means \$2 on the 11, \$1 each on 2, 3 & 12).

The **field** bet is a wager that one of the numbers in the box (usually 2, 3, 4, 9,10,11,12) will be rolled on the next roll of the dice. This bet pays even money, but the true odds are 4-5. Often 2 and/or 12 will pay 2-1. Some casinos pay 3-1 on either the 2 or 12.

Most of the one roll bets, hard way bets, and other bets in the center of the layout are very costly/disadvantageous to the player, the house percentage on these bets can be 11.1% and up. The best advice for prospective craps players is to bet either on the pass line or don't pass line with full odds. More aggressive players can also bet on the Come/Don't Come with full odds which can make you or break you quickly, but in statistical terms is identical to the pass/don't pass bet.

Players can **place** or **buy** individual **numbers** (4,5,6,8,9,10) by placing their wager in the **come** area and telling the dealer, for example, "place the 6" or "buy the 8". Both are bets that the number will be rolled before a 7. Place bets are paid at reduced odds. Buying the number results in a payoff at the true odds, but requires a 5% commission to be paid to the casino.

Place	Buy	Number	Payoff	Payoff	-----	-----	-----
6 or 8	7-6	6-5	5 or 9	7-5	3-2	4 or 10	9-5 2-1

The **Big 6** and **Big 8** wagers are considered by craps players as **sucker bets** because they pay even money while a player can bet on the same proposition (a 6 will be rolled before a 7) by placing the 6 or the 8, which pays 7-6 (true odds are 6-5). No veteran craps player will ever touch those 2 bets.

Examples of basic play

- Example 1:

Let's say you put \$10 on the pass line. On your come-out roll you get an 11, so you win \$10. The game now starts over, with a new come-out roll. You roll a 9, which becomes the point. You decide to bet \$10 on the come line before your next roll. On your next roll you get a 6, which is now the point you need to hit in order to win your \$10 come bet. Your next roll is a 9, which is the point you needed to hit to win your pass line bet, meaning you just won another \$10. You bet \$10 on the pass line again, and your new come-out roll is a 7. You win \$10 for your pass line bet, but lost the \$10 you had previously bet on the come line.

- Example 2:

This time you decide to bet on the don't pass line. You roll a 4, which becomes the point. You bet \$10 on the don't come line, and your next roll is a 7. You lose your don't come bet, and win your don't pass bet, so you just broke even. Since you just sevened-out, the player to your left becomes the new shooter.

Etiquette

Besides the rules of the actual game, certain unwritten rules of etiquette exist while playing craps and are expected to be followed. Many consider these guidelines as important as the actual rules themselves. New players should familiarize themselves with them before approaching a craps table.

Rules related to casino security

- Players are not supposed to handle the dice with more than one hand nor take the dice past the edge of the table.
- When throwing the dice, the player is expected to hit the farthest wall at the opposite end of the table. The dice may not be slid across the table and must be tossed. They may not be thrown higher than the eye level of the dealers.
- The dice must not land in the boxman's bank or on any of the dealer's working stacks of money.
- When either of the dice land on chips or markers not in the boxman's bank or the dealer's working stacks, the number that would be on top if the object the die is leaning on were removed, is the number that is used to make the call.
- If a die hits a player or dealer and rolls back onto the table, the roll counts as long as the person being hit did not interfere with the die.
- In most cases the shooter may "set" the dice to a particular configuration, but if they do, they must be quick about it so as not to delay the game. Some casinos have "no setting" rules, and the player must throw the dice as given to him.
- Do not try to place money in the dealer's hand or expect the dealers to hand you chips. Dealers are not allowed to touch the players at any time. Players are expected to place cash on the layout and announce "change only" or a specific bet and amount. The dealer will then place chips on the layout or in front of the players.

Commonly observed etiquette

- When offered the dice to shoot, a player may pass the dice to the next player without fear of offending anyone; however, keep in mind that at least one player must always be a "shooter" betting on either the pass line or don't pass line for the game to continue.
- Players are expected to tip the dealers, especially if they are winning. Most of the dealer's income is generated from tips. The most common way to tip is simply to toss chips onto the table and say "for the boys". Another method is to place a bet next to your bet and call out "dealers". A "two-way" bet is one that is half and half for the players and dealers.
- After the come-out roll, it is considered extremely rude to say the word "seven", as that is considered bad luck. This is a guaranteed way of offending other players.
- It is considered bad luck to change dice in the middle of a roll.
- Center bets are made by tossing chips to the center of the table

and calling out the intended bet; the stickman will then place the chips correctly for you.

- It is not considered rude to correct a dealer that you feel has made a error. Mistakes happen and disputes are often resolved to the player's benefit, mainly in the interest in keeping their business.
- It is considered rude to "late bet", or make wagers while the dice are no longer in the middle of the table. While entirely permissible, excessive late betting will generally garner a warning.

Odds

The rules vary slightly from one casino to another, but the expected value of most [bets](#) is only slightly negative (the most favorable bets with the most favorable rules offer a house advantage of as little as 0.18%). All bets have a negative expectation, except the "free odds" bet with an expectation of 0, that the player is allowed to make after a point is established on a flat (line) bet. Since there is no correlation between die rolls, there is no possible winning strategy over any given period of time. While experienced [blackjack](#) players who learn to count cards can gain a small mathematical advantage over extended playing sessions by diligent study, there is no comparable strategy for craps.

Occasionally, players win several bets in a row, and such players are said to be "on a roll." Those who increase their bets during a winning series can rapidly win substantial sums. On the other hand, money can be lost back just as quickly, as there is no statistical likelihood of a "hot streak" continuing for any given duration. To counter this, experienced players take full advantage of "free odds" -- bets on which there is zero house advantage. Maximizing the size of your odds bet in relation to your line bet will minimize but never eliminate the house edge. Many casinos have limitation on how large the odds bet can be in relation to the flat bet, with single, double, and five times odds common. Some casinos offer 3-4-5 odds, referring to the maximum multiple of the line bet a player can place in odds for the points of 4 and 10, 5 and 9, and 6 and 8, respectively. During promotional periods, a casino may even offer 100x odds bets, which renders the house edge to almost nothing but dramatically increases volatility. Horseshoe Casino founder Benny Binion once quipped that if every player took the 100x odds, the house "wouldn't be able to keep the lights on," referring to the overhead required to run casino games.

The only casino currently in Las Vegas to offer 100x odds is the Casino Royale located next to Harrah's on the strip. The Stratosphere offers 10x odds and most of the other casinos such as MGM and Bellagio offer 3x4x5. Some casinos such as the Riviera, Orleans and Gold Coast offer 2x odds which is considered an anathema to craps players, in equal footing with 6:5 payouts on single-deck blackjack. Most downtown casinos offer 5x Binions or 10x odds Plaza & Main Street Station (Golden Nugget offers the unusual 6x8x10 odds) with a few offering the horrible 2x odds, Sam Boyd's Fremont.

Systems

Various scam artists have, over the years, marketed "systems" that purportedly enabled players to beat the house. Such betting strategies do not work (or, more accurately, they work only for a player with infinite wealth who faces no maximum bet). One of the best known is the Martingale system where you start by betting \$1 and doubling your bet whenever you lose; upon winning, you start over at \$1. If you play this system, you will 1) risk losing \$128 (or more, if you choose to continue despite mounting losses) to win \$1; and 2) run up against the table limit. If you continue at higher-dollar tables, you could eventually reach the point where you have no more money, at which point you would have to quit. It is because of this system that casinos impose a limit on the amount you can bet. If you keep doubling your wager, you will eventually run up against the limit and you will be unable to recover your previous losses on a single turn.

Other systems depend on mathematical fallacy, e.g. bet on 11 if an 11 has not appeared in the last 20 rolls. Of course, the dice have no memory and the probability of rolling an 11 is exactly $1/18$ on every roll, even if 11 has not come up in the last 100 rolls. While the sales pitches are elaborate — they have never been able to explain why, if their system is so good, the casinos are still in business — no system has been mathematically proven.

The parity hedge system is a hoax promulgated by <http://www.quatloos.com>. Despite the fact that no such system exists (indeed, it is a mathematical impossibility), several gambling-related web sites have retold the 'parity hedge' story without attribution.

Dice Setting

Another approach is to "set" the dice, by throwing them in such a way that one or both will be more likely to show certain numbers.

Unlike other systems, this one is not mathematically absurd, because if it were possible to alter the probabilities of each outcome, then winning systems could be devised. Nevertheless, the casinos take steps to prevent this. The dice are supposed to hit the back wall of the table, which disrupts the controlled spin. Some people offer to teach dice-setting skills, for a substantial fee, but there are no independent verifications that such methods can be successfully applied in a real casino. Frank Scoblete and Stanford Wong, authors of books that feature dice control techniques, believe that it is possible to alter the odds in the player's favor by dice control.

Dice Control

In fact, there is a small but dedicated community of controlled shooters that maintain records and claim proof of dice influencing in casino conditions. The concept of "controlled shooting" however goes far beyond "setting the dice". It purports to involve limiting the "degrees of freedom" in the Rigid body dynamics of the dice. A mechanical engineer, under the pseudonym "SharpShooter", wrote a book on the subject called "Get The Edge At Craps: How to Control the Dice", which claims to define the math and science behind dice control.

The concept of precision shooting claims to elevate craps from a random game of chance, to a sport, not unlike golf, darts, or pool. Precision shooting is not easy, and it requires daily practice, discipline, and focus.

Nevertheless, the amount of influence needed to sway the advantage in favor of the player is quite small - in a normal random distribution there will normally be seven 7s in a total of 42 rolls. If one can influence the dice such that there is only six 7s in a total of 42 rolls, that player will have a slight advantage over the house.

Miscellaneous

Craps is such a popular game, its terminology is often found as colloquialisms in our language. The terms "on a roll", "crapshoot", "no dice", "crap out", "Snake Eyes" and "do it the hard way" all trace their origins to the game of craps.

As casinos restrict players' options in blackjack, craps is increasing in popularity, as it offers the best odds of all standard casino games based on pure chance.

The plot of the musical *Guys and Dolls* revolves around some illegal

games of craps, which "float" from location to location.

See also

- [Dice](#)

Roulette

Roulette is a [casino](#) and [gambling](#) game (*Roulette* is a French word meaning "small wheel"). A [croupier](#) turns a round roulette wheel which has 37 or 38 separately numbered pockets in which a ball must land. The main pockets are numbered from 1 to 36 and alternate between red and black, with number 1 being red. There is also a green pocket numbered 0. In most roulette wheels in the United States but not in Europe, there is a second zero compartment marked 00, also colored green.

If a player bets on a single number and wins, the payout is 35 to 1. The bet itself is returned, so in total it is multiplied by 36. (In a lottery one would say 'the prize is 36 times the cost of the ticket', because in a lottery the cost of the ticket is not returned additionally.)

A player can bet on numbers, combinations, ranges, odds/evens, and colors.

History of Roulette

The first form of roulette was first devised in 17th century France, by the mathematician Blaise Pascal, who was supposedly inspired by his fascination with perpetual-motion devices. In 1842, fellow Frenchmen Francois and Louis Blanc added the "0" to the roulette wheel in order to increase house odds. Roulette was brought into the U.S. in the early 1800s, and again in order to increase house odds a second zero, "00", was introduced - although in some forms of early American roulette the double-zero was replaced by an American Eagle. In the 1800s, roulette spread all over both Europe and the U.S., becoming one of the most famous and most popular casino games. Some call roulette the "King of Casino Games", probably because it was associated with the glamour of the casinos in Monte Carlo. (Francois Blanc actually established the first casinos there).

A legend tells about Francois Blanc, who supposedly bargained with the devil to obtain the secrets of roulette. The legend is based on

the fact that if you add up all the numbers on the roulette wheel (from 1 to 36), the resulting total is "666", which is supposedly the "Number of the Beast" and represents the devil.

Types of Roulette

There are two types of roulette, American roulette and European roulette. The difference between the two types is the number of 0's on the wheel. American roulette wheels have two "0's", zero and double-zero, which increases the house advantage to 5.4%. In European roulette there is only one zero, giving the house an advantage of 2.7%.

The two versions use chips differently also. American roulette uses so-called "non-value" chips, meaning that all chips belonging to the same player are of the same value determined at the time of the purchase, and the player cashes in the chips at the roulette table. European roulette uses standard casino chips of differing values as bets, which can make the game more confusing for both the croupier and the players.

A traditional European roulette table is also much larger than an American roulette table, and the [croupier](#) uses a long tool called a *rake* to clear out the chips and to distribute winnings. In American roulette the [croupier](#) collects and distributes chips by hand.

Board depiction (American Roulette)

		0	↔	00	
1-18	1st 12	1	2	3	←
		4	5	6	←
odd		7	8	9	←
		10	11	12	←
red	2nd 12	13	14	15	←
		16	17	18	←
blk		19	20	21	←
		22	23	24	←
even	3rd 12	25	26	27	←
		28	29	30	←
19-36		31	32	33	←
		34	35	36	←
		↑	↑	↑	

Bet odds table (American Roulette)

(in addition to the mentioned payout the bet is returned)

Bet name	Winning spaces	Payout	Odds of winning (against)	Expected value (on a \$1 bet)
0	0	35 to 1	37 to 1	-\$0.053
00	00	35 to 1	37 to 1	-\$0.053
1	1	35 to 1	37 to 1	-\$0.053
2	2	35 to 1	37 to 1	-\$0.053
...	...	...	...	...
36	36	35 to 1	37 to 1	-\$0.053
Row 00	0, 00	17 to 1	18 to 1	-\$0.053
Row 3	1, 2, 3	11 to 1	11.667 to 1	-\$0.053
Row 6	4, 5, 6	11 to 1	11.667 to 1	-\$0.053
Row 9	7, 8, 9	11 to 1	11.667 to 1	-\$0.053
...	...	...	...	...
Row 36	34, 35, 36	11 to 1	11.667 to 1	-\$0.053
Column 1	1, 4, 7, ..., 34	2 to 1	2.167 to 1	-\$0.053
Column 2	2, 5, 8, ..., 35	2 to 1	2.167 to 1	-\$0.053
Column 3	3, 6, 9, ..., 36	2 to 1	2.167 to 1	-\$0.053
First 12	1, 2, 3, ..., 12	2 to 1	2.167 to 1	-\$0.053
Middle 12	13, 14, 15, ..., 24	2 to 1	2.167 to 1	-\$0.053
Last 12	25, 26, 27, ..., 36	2 to 1	2.167 to 1	-\$0.053
Odd	1, 3, 5, ..., 35	1 to 1	1.111 to 1	-\$0.053
Even	2, 4, 6, ..., 36	1 to 1	1.111 to 1	-\$0.053
Red	1, 3, 5, 7, 9, 12, 14, 16, 18, 19, 21, 23, 25, 27, 30, 32, 34, 36	1 to 1	1.111 to 1	-\$0.053
Black	2, 4, 6, 8, 10, 11, 13, 15, 17, 20, 22, 24, 26, 28, 29, 31, 33, 35	1 to 1	1.111 to 1	-\$0.053
1 to 18	1, 2, 3, ..., 18	1 to 1	1.111 to 1	-\$0.053
19 to 36	19, 20, 21, ..., 36	1 to 1	1.111 to 1	-\$0.053
five number bet	0, 00, 1, 2, 3	6 to 1	6.6 to 1	-\$0.079

Note also that 0 and 00 are neither odd nor even in this game.

The **house average** or **house edge** is what is lost on average relative to the bet. If a player bets on a single number in the American game there is a probability of $1/38$ that the player gets 36 times the bet (including the return), so they end up having on average $36/38 = 0.9474$ times the bet. Thus the house average for American roulette is $1/19$ (5.26%); the same applies for the other kinds of bets, except for the five number bet where it is greater than 7%. The house average is approximately halved in the European game.

Betting Strategies and Tactics

Albert Einstein is reputed to have stated, "You cannot beat a roulette table unless you steal money from it."

And yet, the numerous even money bets in roulette have inspired many players over the years to attempt to beat the game by using one or more variations of a Martingale betting strategy, wherein the gamer doubles the bet after every loss, so that the first win would recover all previous losses, plus win a profit equal to the original bet. As the referenced article on Martingales points out, this betting strategy is fundamentally flawed in practice and the inevitable long-term consequence is a large financial loss. Despite the claims in some books (for instance "Beat The House", by Frederick Lembeck, ISBN 0806516070), there is **no way** such a betting strategy can work over the long term.

Another strategy is the Fibonacci system. The Fibonacci roulette bet management system is a score system. it calculates a score based on results of the games. The score indicates the situation on the betting table based on which you should take a betting decision. The advantage of this system is that it stays relatively stable even in short runs, because losing streaks are easily compensated with one win. It is way better than the dreaded Martingale positive progression system. Fibonacci system is also less threatened by the table limits because it tends to stay in saner bounds than Martingale in short runs.

While not a strategy to win money, New York Times editor Andres Martinez described an enjoyable roulette betting method in his book on Las Vegas entitled "24/7". He called it the "dopey experiment". The idea is to divide your roulette session bankroll into 35 units. This unit is bet on a particular number for 35 consecutive spins. Thus, if the number hits in that time, you've won back your original bankroll and can play subsequent spins with house money. If your number never hits - well, it can take a great deal of time to spin the wheel 35 times; think of the fun you'll have in that time! In practice, this dopey experiment often results in funny looks from the dealer at first; soon,

however, every gambler at the table will be putting money on your number. This turns roulette into a group activity that can rival craps for cheers when the number hits. However, there is only a $(1 (37 / 38)^{35}) * 100\% = 60.68\%$ probability of winning within 35 spins (assuming a double zero wheel with 38 pockets).

There is a common misconception that the green numbers are "house numbers" and that by betting on them one "gains the house edge." In fact, it is true that the house's advantage comes from the existence of the green numbers (a game without them would be statistically fair) however they are no more or less likely to come up than any other number.

Various attempts have been made by engineers to overcome the house edge through predicting the mechanical performance of the wheel, most notably by Joseph Jagers, the man who broke the bank at Monte Carlo in 1873. These schemes work by determining that the ball is more likely to fall at certain numbers. Claude Shannon, a mathematician and computer scientist best known for his contributions to information theory, built arguably the first wearable computer to do so in 1961 [1].

To try to prevent exploits like this, the casinos monitor the performance of their wheels, and rebalance and realign them regularly to try to keep the result of the spins as random as possible.

More recently Thomas Bass, in his book *The Newtonian Casino* 1991, has claimed to be able to predict wheel performance in real time. He is also the author of *The Eudaemonic Pie*, which describes the exploits of a group of computer hackers, who called themselves the Eudaemons, who in the late 1970s used computers in their shoes to win at roulette by predicting where the ball would fall.

In the early 1990's, Gonzalo Garcia-Pelayo, realizing that most roulette wheels are not "perfect", used a computer to model the tendencies of the roulette wheels at the Casino de Madrid in Madrid, Spain. Betting the most likely numbers, along with members of his family, he was able to win over one million dollars over a period of several years. A court ruled in his favor when the legality of his strategy was challenged by the casino.

In 2004, it was reported that a group in London had used mobile cameraphones to predict the path of the ball, a cheating technique called sector targeting. [2] In December 2004 court adjudged that they didn't cheat because their special laser cameraphone and microchip weren't influencing the ball - they kept all £1.3m. [3]

Betting Only on Red

One conceivable strategy would be to bet on the ball landing in a

red space for a certain number of spins, for example, 38.

There are 18 red spaces on a roulette table with 38 total spaces. Dividing 18 by 38 yields a probability of landing on red of 47.37%. This probability can be used in a binomial distribution and made into an approximate standard normal distribution.

Doing so indicates that, if one were to spin the wheel 38 times, there is a 99% probability that the ball would land on red at least 10 times. There is a 83% probability that in 38 spins, the ball will land on red at least 15 times. Out of 38 spins, there's a 50% chance that 18 will be red.

However, the break-even point is 19 spins, since the bet on red is 2:1, and the probability of 19 red spins in 38 is only 37%. This indicates the difficulty of winning by only betting on red.

The results occur because, as indicated by the 18 divided by 38 equals 47.37% figure, the ball will land on red less than half the time. This percentage applied in the binomial and standard normal distributions creates the vast divide in probability from 18 red spins to 19 red spins out of 38 spins. Basically, it is very unlikely for anyone to spin much more than 18 red spins out of 38 spins.

Famous Bets

In 2004, Ashley Revell of London sold all of his possessions, clothing included, and brought US\$135,300 to the Plaza Hotel in Las Vegas and put it all on "Red" at the roulette table in a double-or-nothing bet. The ball landed on "Red 7" and Revell walked away with his net-worth doubled to \$270,600. To be fair, as we have seen, he had over a 47% chance of success, but what a risk to take!

Keno

Keno is a popular [gambling](#) game in the United States. Its history can be traced to a Chinese game called "The Game of the White Dove ({}?h)" invented during the Han Dynasty (187 BC). The name "keno" descends from a form of Bingo or Lotto popular in the USA in the 19th century. There are many references to "Keno" played in a bingo like format in the eastern states prior to the influx of Chinese during the gold rush. The name appears to have been transferred to the similar format Chinese lottery in the late 1800s.

History

The following account of the history of the game is an excerpt from Stewart Culin's paper published in 1891. [1]

This game is an old establishment, and was first introduced by Chéung léung of the great Han Dynasty. When the city was hard pressed, and provisions were beginning to fail, they (the besieged) were anxious to increase the contributions, and to exhort the people to subscribe more for the army, but were unable to do so. Hence they established a game of chance (to guess characters), by which they hoped to tempt the people to hazard their property. In order to fix a method of losing or gaining at hazard, they chose 120 characters for the whole game and eight characters for one subdivision. If the people lost one (whole) subdivision they lost three lí of property; if they gained one division they were rewarded with ten taels. These regulations being once established, who would not sacrifice a little in order to gain much? The two games in the morning and evening were attended by men and women who tried their luck by guessing. They had only opened the game for about ten days, when they had accumulated more than 1000 pieces of silver; and after a few more decades their wealth was boundless. The money thus gained was considered a contribution to the army for the reduction of the empire....

At present the people practice the game as a profession. They borrow the characters from the Thousand Character Classic, of which eighty are chosen and arranged after a new plan, ten characters forming one division, which the people are permitted to purchase for more or less (for whatever they please.)

Three cash gaining ten taels makes the people covet the game without loathing. When they guess five characters they gain five lí; when six characters they gain five candareens; when seven characters they gain five mace; when eight characters they gain two taels and five mace; when nine characters they gain five taels; when ten characters they gain ten taels.

When this game was first established, the houses were often at a great distance, and communication being difficult and the people anxious soon to know the result respecting their gaining or losing, they employed letter doves to carry the news to the parties, whence the present designation: 'The Game of the White Dove.'

Modern keno

Keno, in its modern form, is like a lottery or [bingo](#) in that it is a numbers game. Unlike bingo, the keno player picks the numbers for his or her ticket(s). Keno cards have 80 numbers; the keno player can

pick as many (or as few) numbers as desired. This is done by circling or otherwise marking them with a pencil. Once the player has picked his numbers, he must bring his card back to the clerk at the keno booth. The clerk will then issue a receipt after recording the player's numbers.

After picking numbers and recording them at the keno booth, the player will then watch either a "big board" in which winning keno numbers will light up or on a video monitor showing the selected numbers. As the winning numbers light up, the player usually marks them on his or her card with a bright-colored marker. The amount of numbers the player originally picked that match winning numbers of a particular drawing will determine if any money is won and, if so, how much. The winning ticket needs to be taken to the keno booth immediately if it is an individual game ticket, as drawings usually take place every five minutes. If the player tries to redeem a winning ticket when the next drawing starts, it is void and no money is paid out.

To avoid having a void ticket, a keno player can purchase a "multi-race" ticket with the same picked numbers on anywhere from 2 to 20 tickets. When the maximum number of games (matching the number of tickets) is finished, the player can then redeem any winnings and avoid the peril of a void ticket. Another option is the "stray and play" ticket, which is usually a number of games greater than 30. Unlike standard keno tickets, the "stray and play" doesn't have to be redeemed immediately and is often good for up to a year after purchase.

Faro

Faro is a [card game](#), a descendant of Bassett. It enjoyed great popularity during the 18th century, particularly in England and France, and in the 19th Century in the United States, where it was practiced by 'Faro dealers' such as the infamous Doc Holliday. It has since fallen completely out of fashion. Its name is a corruption of pharaoh, and refers to the Egyptian motif that commonly adorned French playing cards of the period.

Although both Faro and Bassett were forbidden in France, on severe penalties, these games continued to be in great vogue in England during the 18th century; apparently because it was easy to learn, it gave the appearance of being very fair, and, lastly, it was a very quiet, quick game, and could be played discreetly.

Faro was played with an entire pack of cards, and admitted of an indeterminate number of players, termed 'punters,' and a 'banker.'

The Faro table had a betting layout consisting of one card of each

denomination pasted to the table. (Traditionally, the spades suit was used for this layout.) Each player laid his stake on one of the 13 cards on the layout.

The banker held a complete 52 card deck, from which he drew cards, one for himself, placed on the right, and the other, called the *carte anglaise*, or English card, for the players, placed on the left. A mechanical shoe was normally used to prevent manipulations of the draw.

The banker won all the money staked on the card on the right, and had to pay double the sums staked on those on the left. In modern betting terms, the payoff on these winning wagers was "2 for 1", which is the same as odds of "1 to 1", also called "even money".

A player could "copper" their bet by placing a penny on top of it. This reversed the meaning of the win/loss piles for that bet.

Certain advantages were reserved to the banker: -- if he drew a doublet, that is, two equal cards, he won half of the stakes upon the card which equalled the doublet. In a fair game, this provided the house edge.

If the banker drew for the players the last card of the pack, he was exempt from doubling the stakes deposited on that card.

Faro was undoubtedly one of the most popular card games of the 18th century, especially among the lower classes. *Our life here*, writes Gilly Williams to George Selwyn in 1752, would not displease you, for we eat and drink well, and the Earl of Coventry holds a Pharaoh-bank every night to us, which we have plundered considerably. Charles James Fox preferred Faro to any other game.

Faro's detractors regarded it as a dangerous scam that destroyed families and reduced men to poverty. This reputation is likely due to the use by some bankers of rigged dealing shoes that allowed the banker to manipulate the draw of the cards after observing the players' bets.

Faro bankers were alleged to employ 'gentlemen' to give a very favourable report of the game to the town, so that the games would be allowed to transpire without further inquiry.

Faro is played by characters in saloons on the HBO series "Deadwood".

Scenes involving the game of Faro (with varying degrees of accuracy) appear in the Hollywood movies *Wyatt Earp*, starring Kevin Costner, and *Tombstone*, starring Kurt Russell as Wyatt Earp and Val Kilmer as Doc Holliday.

Detailed Reference

Howard, M. *"Bucking the Tiger" - The Traditional Game of Faro*.
Barbary Coast Vigilance Committee. 08 June 2004 <http://www.bcvv.net/faro/>

Mr. Howard provides more history on the game, describes the rules and equipment in detail, and further discusses the aspect of cheating involved in the game (due to its very limited house edge). The article provides many photographs.

Play Faro Online

Sean Gleeson provides a playable version of Faro at his web site [Wichita Faro](#).

Anecdote - *The Suicide Table*

The dealer is the banker as well as the card dealer for the game of Faro.

A Faro dealer risks personal fortune, as may be seen in the case of Black Jake:

According to R.C. Bell, Black Jake was the owner of a Faro table in Virginia City, Nevada in the 1860s. He lost \$70,000 in one night and shot himself.

A second owner of the table ran it for one night, but could not make good on his losses. He also shot himself.

The table was stored until the 1890's, when it was made into a Blackjack table at the Delta Saloon.

One snowy night, a drunken gold miner, after losing heavily at another saloon, came into the Delta. He wagered a gold ring for \$5 and won. He went on to win \$86,000, some horses, and a gold mine, wiping out the dealer's possessions. This led to the third suicide, after which the table was never used again.

Read more about the "suicide table" in a newspaper story from [The Las Vegas Review Journal](#) of October 23, 2000. The story also describes an active Faro game in Virginia City, Nevada, as recently as the 1980's.

A picture of the table appears at [Virg City-Faro Table](#).

This anecdote was paraphrased from:

The Boardgame Book, by R.C. Bell, Copyright 1979 by Marshall Cavendish Limited Published in the United States of America in 1979 by The Knapp Press, 5900 Wilshire Boulevard, Los Angeles, California 90036 Trade distribution by The Viking Press, 625 Madison Avenue, New York, N.Y. 10022 Distributed simultaneously in Canada by

Pachinko

Pachinko (パチンコ) is a device used for [gambling](#) and is related to pinball machines. Although originally strictly mechanical, modern pachinko machines are a cross between a pinball machine and a [video slot machine](#). It is said to have been invented sometime after World War II in Nagoya, though the date is sometimes questioned. They are widespread in Japan in establishments called "pachinko parlors", which also often feature a small number of slot machines.

The player purchases a large number of small steel balls which are inserted, in bulk, into the machine. Originally, machines had a spring-loaded lever for shooting the balls, but modern machines use a round "throttle" that merely controls how quickly an electrically fired plunger shoots the balls onto the playfield. The balls then drop through an array of pins, and usually simply fall through to the bottom, but occasionally fall into certain gates which make the machine pay out more balls.

Most current machines include a slot-machine (these are called "pachi-slo"), and the big winnings are ultimately paid not from the balls falling into gates, but from the slot machine matches that follow. In fact, many modern machines do not use the balls at all to determine winnings; they are based strictly on electronic random number generators.

The winnings are in the form of more balls, which the player may use to keep playing or exchange for tokens or prizes such as pens or cigarette lighters. Cash cannot be paid out according to Japanese law, but players can then exchange certain tokens or prizes for cash at small centres located nearby or in a separate room from the game parlor itself. Such pseudo-cash gambling is theoretically illegal in Japan and there are links between pachinko parlors and organized crime (specifically the yakuza) and the Korean ethnic minority in Japan. From the sheer number of pachinko parlors in Japan, it is clear that the activity is at least tacitly tolerated by the authorities. Because of issues such as verifiability, both Japanese and Western media refrains from explicitly pointing out that every pachinko parlor has a cash payout window, but no pachinko parlor without a cash payout window has ever been documented.

Pachinko parlors share the reputation of slot machine dens and casinos the world over—garish decoration, over-the-top architecture, the smell of tobacco, the constant din of the machines, and players

entranced for hours in their games. Pachinko has apparently thrived through Japan's recession of the 1990s, but it may struggle to attract younger players in the future as Internet cafes and game stations rise in popularity.

Sic Bo

Sic Bo is a [gambling](#) game of Chinese origin. It is also known as Tai Sai or Dai Siu, meaning Big Small. It is played with three standard [dice](#) that are shaken in a basket or plastic cup. (Traditionally in Asia, the dice were shaken on a small plate covered with a bowl, which was then lifted to reveal the roll).

Outcomes are based on the combinations that come up on the three dice. Winning variations can yield a pay-off ranging from 1:1 to 180:1. Payoff combinations are listed on a [roulette](#)-style table top that is often lighted from underneath in winning areas of the layout to indicate winning combinations.

The player can make any number of bets on the Sic Bo table. The most common bets are "Big" (the sum total of the three dice will be 11 through 17) and "Small" (total 4-10). Other bets are on specific three-number totals (with varying odds from 5:1 to 50:1), on specific two-number combinations, or on single-number bets (one pays 1:1, two pays 2:1, three pays 3:1; in some [casinos](#) three pays as high as 12:1).

The game of [Chuck-a-luck](#) (also called "Birdcage") is a variation of this game which usually features only the single-number bets, sometimes with an additional bet that pays off 30:1 (or thereabouts) for "any triple," where all three dice are the same number. The name "birdcage" refers to the device in which the dice are kept, which resembles a wire-frame bird cage, that pivots about its center. The dealer rotates the cage end over end, with the dice landing on the bottom. This variation was once common in Nevada casinos, but now it is a rarity, frequently replaced by **Sic Bo**.

History

Sic Bo originated in ancient China and is still a popular Asian [casino](#) game. It can be found in most American casinos, and is widely played in casinos in Macau where it is known as *Dai Siu*.

Let It Ride

Let It Ride is a [card game](#) derived from [poker](#), generally played in casinos. Due to the slow pace of the game and the chance to pull back 2 of the 3 bets, it is a favorite of older players and those new to table games. Most casino dealers hate the slow pace (i.e., lack of tips) and unofficially refer to the game as "Let It Die." The name and logo are copyright Shuffle Master Inc.

Basic rules

Let it ride poker was designed to offer casino guests an opportunity to control two of their three bets wagered on a poker game. The game is based on the five card stud poker game, and is generally easy to learn. The players do not play against the dealer or any other player.

Payout schedule

Hand	Payout
Royal flush	1,000 to 1
Straight flush	200 to 1
Four of a kind	50 to 1
Full house	11 to 1
Flush	8 to 1
Straight	5 to 1
Three of a kind	3 to 1
Two pair	2 to 1
Pair of 10's or better	1 to 1

How to Play

Bets

All bets must be placed prior to the dealer announcing "no more bets." Each player places three equal bets in the spaces indicated (1) (2) (\$).

The deal

Each player and the dealer receives three cards face down.

The play

You are not playing against the dealers or the other players. You are simply trying to get the best possible poker hand by using your three cards and two community cards, which the dealer will expose.

Each player is required to keep the three cards in full view of the dealer at all times.

The winners are paid according to the payout schedule (pair of 10's or better, two pair, etc.). After looking at his three cards, each player will be asked by the dealer if he wishes to take back bet number 1 or "let it ride."

The dealer, after burning the community card to his left, turns up one community card. Each player will be asked by the dealer if he wants to take back bet number 2 or "let it ride." After each player has made a decision regarding bet number 2, each player's cards will be placed face down on the designated area of the layout and they may not touch the cards again.

The dealer then turns up the second community card and in a counterclockwise direction, turns the three cards of each player face up. After all losing wagers have been collected, all winning hands are paid by the dealer, according to the payout schedule.

Regardless of the decision made concerning the first or second bets, a player may not take back the third bet.

Players are not allowed to show their hands to the other players, as this gives them an advantage by increasing their chances of knowing what cards the dealer is likely to turn up.

3-Card Poker

Three Card Poker also called **Tricard poker** is a [poker-based game](#) that has recently become somewhat popular in American [casinos](#). It actually consists of two separate games, *Pairplus* and *Ante and Play*. The players can choose to play either or both of the games.

Pairplus

Pairplus is a simple bet on the [cards](#) with a payout for all hands of a pair or better. Below are six examples of actual payout tables used by some [casinos](#).

Payoff Tables for Pairplus						
Hand	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
Straight flush	40 to 1	40 to 1	35 to 1	50 to 1	40 to 1	40 to 1
Three of a kind	30 to 1	25 to 1	25 to 1	30 to 1	30 to 1	30 to 1
Straight	6 to 1	6 to 1	6 to 1	6 to 1	5 to 1	6 to 1
Flush	4 to 1	4 to 1	4 to 1	3 to 1	4 to 1	3 to 1
Pair	1 to 1	1 to 1	1 to 1	1 to 1	1 to 1	1 to 1

The house advantage on *Pairplus* with the payout tables above ranges from 2.3% to 7.3%.

Ante and Play

Normal Ante and Play gameplay

For **Ante and Play**, the player places an "ante" bet before receiving his cards. With this information, the player can fold his cards and lose the ante bet, or raise by placing out a bet of equal money to the ante bet. If he chooses to play, there are three possibilities. The first is that the dealer does not 'qualify'. To qualify, the dealer must have a hand of a Queen High or better. If the dealer does not qualify, the ante bet is paid out even money, but the play bet is simply returned. If the dealer does qualify, the player wins if his hand is of higher value than the dealer's, and gets paid out even money on both his ante and play bets. If the dealer's hand is of higher value, the dealer takes the Ante and Play bets. Rules vary on what happens when the hands are of exactly equal value: some say that the player simply gets his money back, but others say that the player is paid even money on his bet.

The Ante Bonus

In addition to normal Ante and Play gameplay, there is a bonus

payout on the ante bet for especially good hands.

Ante Bonus Payouts				
Hand	Table 1	Table 2	Table 3	Table 4
Straight flush	5 to 1	4 to 1	3 to 1	5 to 1
Three of a kind	4 to 1	3 to 1	2 to 1	3 to 1
Straight	1 to 1	1 to 1	1 to 1	1 to 1

These bonus payouts are paid only on the ante bet for any player who chooses to play, regardless of whether the dealer qualifies or whether the player wins or loses.

4-Card Poker

Four card poker is a relatively new [casino](#) game similar to [three card poker](#), invented by Roger Snow and owned by ShuffleMaster [1].

The player makes an ante bet and may also make an 'Aces Up' bet.

Five playing cards are dealt to the player who has to make the best four-card hand possible.

The dealer is dealt five cards face down, and one card face up, a total of six cards. He also he has to make the best four-card hand.

After seeing his cards and the dealer's face-up card, the player can opt to fold, in which case he receives nothing, or play, by betting between one and three times his ante.

The best four-card hands for player and dealer will be compared according to the following ranking (from best worst):

- four-of-a-kind
- straight flush
- three of a kind
- flush
- straight
- two pairs
- pair
- high card

If the player has three-of-a-kind or better, he will receive a bonus based on the ante wager as follows: three-of-a-kind: 2 to 1, straight flush 20 - 1, four of a kind 25-1.

The Aces Up bet is resolved independently of the dealer's hand,

purely on the rank of the player's payout. The specific payout depends on the payout in use, with payouts for a pair-of-aces (pays even money on the Aces Up wager) or better.

The dealer has an advantage in having an extra card from which to select the best four, and the fact that if the player folds, he will lose his ante, even if his hand was better than the dealers. The player gets return from the bonus bet payment and from the ability to raise by more than one unit one the hand is good.

Strategy for when to raise and fold is fairly complex, but with optimal play the ante + play bet has a house edge of about 3.36% of the initial bet [2].

Red Dog

Red Dog, also known as **Yablon**, **Ace-deuce**, **In between** or **Between the sheets**, is a game of chance played with [cards](#). It is played mostly with a 52-card deck and uses only 3 cards at a time. The object of the game is to bet on what the third card dealt is going to be.

The dealer will deal out 2 cards, one on the left and one on the right. In order for the player to win, the third card's rank must come between the other two cards' rank. So if the two cards are a 5 and a Jack, a winning hand would consist of a card between a 6 and a 10. The closer the two cards are in rank the higher the pay out. Aces are high.

Before the player sees the third card, he has the option of doubling his bet. A push happens when the first two cards dealt are either consecutive or are a pair. If the third card dealt makes three of a kind then the player is paid out at 11 to 1.

External links

- <http://www.pagat.com/banking/reddog.html>
- <http://www.red-dog.us/>

Pyramid Poker

Pyramid poker is a new casino table game. It is a simplified version of [pai gow poker](#), where instead of seven cards 3 cards are dealt face down. It uses a standard 52 card deck without jokers. The

hand rankings are just like in [poker](#) except that aces are always high. The dealer deals the player and himself 3 cards, which is arranged into a 2 card hand and a 1 card hand which should be smaller than the 2-card hand. There are no straights or flushes in the 2-card hand, and a higher ranked hand wins in both the hands. In order to win, the both the hands of the player has to be higher than the dealer's hands. If only one hand is higher and the other loses, then the bet is a tie or push. The players loses his bet if the dealer wins both ways. All copies (equal face value) shall go to the dealer giving the advantage to the house. There is also the "House Way" in this poker variant that adds more variety.

Caribbean Stud Poker

Caribbean stud poker is a [casino table game](#) with rules similar to five card stud [poker](#). However, unlike standard poker games, Caribbean stud is played against the house rather than against other players (and, like most such games, it cannot be beaten in the long run). There is no bluffing or other deception. For these reasons, most poker players do not consider it to be a form of poker. (They do not necessarily feel that it should not be called poker, but means merely that they will not refer to it as simply "poker". For instance, a gambler might say "I played poker" if he played seven card stud, but probably would not if he played Caribbean stud.)

The following rules are typical of U.S. casinos, but some of the details (the payouts and limits) vary from casino to casino.

To play, every player places his ante on the layout where indicated; all ante wagers must be placed prior to the dealer announcing "*No more bets*". Each player and the dealer will then receive 5 cards, face down. The dealer will turn over one of his cards, then push the cards toward the players, after which the players may look at their cards. They may only look at their own cards, and may not discuss what they have with any other player at the table.

Players have the option to play or fold; if they choose to play, they place their bets (twice the amount of their respective ante) in the bet box. If they choose to fold, they forfeit their ante. After all the players have made their decisions, the dealer reveals his hole cards. The dealer only plays with an ace/king or higher; he then compares his cards to the players' cards (individually, right to left), and the best poker hand wins.

There are some major rules in Caribbean Stud Poker that *must* be observed at all times while playing:

- Only one hand per player. Players cannot hold or wager on multiple hands at the table.
- Players choosing to play the Progressive Payout feature are responsible for ensuring their \$1 wager has been inserted into slot and the "Indicator Light" is ON.
- Players may not exchange or communicate information regarding their hands to other players or the dealer. Player violation will result in a dead hand and forfeiture of all wagers.
- Incorrect amount of cards to the player constitutes a dead hand (or push) for that player only.
- The decision of the table/casino supervisor is final.
- If the dealer is dealt four cards of the five-card hand, the dealer shall deal an additional card to complete the hand. Any other misdeal to the dealer shall result in all hands being void and the cards shall be reshuffled.
- Each player shall be required to keep the five cards in full view of the dealer at all times. Once each player has examined his or her cards and placed them face down on the layout, they may not touch the cards again.
- If a hole card is exposed prior to the dealer announcing *No More Bets*, all hands shall be void.

If a player's cards beat the dealer's cards, the player will receive even money (1-1) on the ante, and the following on his bet (with a maximum payout of \$5,000 U.S. Dollars per hand on each bet wager):

Royal flush: 100 to 1

Straight flush: 50 to 1

Four of a kind: 20 to 1

Full house: 7 to 1

Flush: 5 to 1

Straight: 4 to 1

Three of a kind: 3 to 1

Two pair: 2 to 1

One pair or less: 1 to 1

If the dealer does not have at least ace/king, all bet wagers will be void, and players will receive even money on their ante bet only. If

the dealer's cards beat a player's cards, the dealer collects both the ante and bet.

In addition, in Caribbean stud poker, players can also bet on their poker hands and win the "progressive feature"; this is done by dropping a 1.00 dollar gaming chip into the chip acceptor on the table after placing the ante. Players with a flush or higher win, regardless of the outcome of their table bets:

Royal Flush: 100% of Progressive Meter

Straight Flush: 10% of Progressive Meter

Four-of-a-Kind: \$500

Full House: \$100

Flush: \$50

Winning progressive payout hands are paid in accordance with the amount on the meter when it is the player's turn to be paid. However, if more than one player at a table has a royal flush progressive payout hand, each player shares equally in the amount on the meter when the first player with a royal flush is to be paid.

Caribbean Stud Poker in the United Kingdom

Caribbean Stud Poker differs slightly in the United Kingdom, and most parts of Europe, from the US. The game is officially known as "Casino Five Card Stud Poker", and not all casinos have the jackpot prize. Those which do have the prize, usually the large chain groups, officially call the game "Casino Jackpot Five Card Stud Poker". In both instances, the game is commonly referred to as "Casino Stud Poker".

The basic rules are the same in the UK as the US, although the payouts differ - the maximum bet is generally £100 on the ante and £200 on the raise, and all payouts are paid on the raise, meaning the maximum payout can potentially be £10,000 (a Royal Flush pays at the same odds, 50:1, as a Straight Flush).

Casinos offering the jackpot generally have the card shuffled by a card shuffling machine - the cards are then removed and dealt out by the dealer, or croupier. Independent and small casinos generally have the croupier shuffle the cards by hand.

British casinos do not use the chip dropper system; instead, a £1 chip is placed on a small plastic circle on the table, which lights up. The croupier then presses a button on a panel in front of them, which keeps the lights lit up once the chips are removed. The dealer removes the chips, and can then tell which players are playing the jackpot game and which are not.

If the dealer does not show an Ace/King, hands playing the jackpot must be turned over, face up, and shown to the dealer and table. If the player is not playing the jackpot prize, the cards are not shown.

See also

- [Poker](#) for other types of Poker games.

Spanish 21

Spanish 21 is an increasingly popular variant of [blackjack](#) owned by Masque Publishing, Inc. "Unlicensed" (but equivalent) versions may be called **Spanish blackjack**.

Spanish 21 uses the following rules:

- The game is played with six or eight decks dealt from a shoe. Each deck is a standard poker deck with the tens (but not face cards) removed. All cards have the same values as in blackjack.
- Blackjack pays 3:2.
- Hitting, standing, and splitting all follow the same rules as in blackjack, except drawing to split aces is allowed. Resplitting is also allowed.
- The player may surrender on the first two cards or after doubling down.
- The dealer always checks for blackjack with a face card showing before play continues, as in American blackjack games.
- The player may double down on any total, even after taking hit cards.
- In some casinos, the player may redouble after doubling down.
- A total of 21 always wins for the player. It never pushes against the dealer's 21.
- A five-card 21 pays 3:2, a six-card 21 pays 2:1, and a 21 with seven or more cards pays 3:1. However, these bonus payouts do not apply if the 21 was the result of doubling.
- 6-7-8 of mixed suits pays 3:2, of the same suit pays 2:1, and of spades pays 3:1.
- Suited 7-7-7 against a dealer 7 pays a large bonus (for example, \$1000 for bets \$5-24 and \$5000 for bets \$25 and over). All other players at the table receive a \$50 "envy bonus". This rule does not apply after splitting.
- In most casinos, dealer hits soft 17.

The removal of the tens in each deck favors the dealer, however, the other additional rules all favor the player (except for dealer hitting soft 17), and usually result in a low house edge, often lower than traditional blackjack.

There are no popular card counting methods in Spanish 21, though it would likely generate less scrutiny. Of course, any counting system applied must account for the fewer ten-point cards in the shoe.

Bingo

Bingo is a game of chance where randomly-selected numbers are drawn and players match those numbers to those appearing on 5x5 matrices which are printed or electronically represented and are known as "cards." The first person to have a card where the drawn numbers form a specified pattern is the winner and calls out "Bingo!" to alert others to the win. Bingo is a game used for legalized gambling

in some countries.

In New Zealand, Australia, and Britain, a very similar game called housie is played, which differs only in ticket layout and calling.

Description of the game

Each bingo player is given a card marked with a grid containing a unique combination of numbers and, in some countries, blank spaces. The winning pattern to be formed on the card is announced. On each turn, a non-player known as the *caller* randomly selects a numbered ball from a container and announces the number to all the players. The ball is then set aside so that it cannot be chosen again. Each player searches his card for the called number, and if he finds it, marks it. The element of skill in the game is the ability to search one's card for the called number in the short time before the next number is called.

The caller continues to select and announce numbers until the first player forms the agreed pattern (one line, two lines, full house) on their card and shouts out the name of the pattern or *bingo*. One of the most common patterns, called *full card*, *blackout* and *cover-all* simply consists of marking all the numbers on the card. Other common Canadian and American patterns are single line, two lines, centre cross, L, Y, inner square (4×4), roving square (3×3), and roving kite (a 3×3 diamond). On Canadian and American cards lines can be made horizontally, vertically, or diagonally. Inner and roving squares and kites must be completely filled; roving squares and kites may be made anywhere on the card.

Bingo Cards

Canadian and American bingo cards are 5×5 grids of numbers only; *dual daub*, *dual dab*, or "double-action" cards have two numbers in each square. Each space in the grid contains a number, except for the centre square, which is considered filled. The highest number used is 75. The columns are headed with the letters of the word BINGO, and the letter is called with the number — for example, B-10, I-25, N-40, G-55, O-70. Numbers 1 to 15 are assigned to the *B* column, 16 to 30 to the *I* column, 31 to 45 to the *N* column, 46 to 60 to the *G* column, and 61 to 75 to the *O* column.

Each card has a unique serial number to permit quick verification by computer.

Culture

Canadian and American games often have multiple bingos — for example, the players may first play for a single line, then after that is called continue playing for a full card, then for a consolation full card.

In Canadian and American Halls, players often play multiple cards for each game; thirty is not an unusual number. Because of the large numbers of cards played by each player, most Canadian and American halls have the players sit at tables to which they often fasten their cards with adhesive tape. To mark cards faster the players usually use special markers called *dabbers*. At commercial halls, after calling the number the caller then displays the next number on a television monitor; bingo cannot be called until that number is called aloud, however. The numbers already called and the patterns being played are also displayed on electric signs.

In American primary schools, bingo is used to teach students. The numbers are replaced with letters, pictures, words or symbols that represent important concepts.

History

Bingo can be traced back to a game called Lotto, played in Italy in 1530. The bingo name comes from a corruption of the name Beano, the name of a form of bingo played in the United States in the 1920s. Beano was so called because beans were used to cover the numbers.

The business of bingo

In the US, the game is primarily staged by churches or charity organizations. Their legality and stakes vary by state regulation. In some states, bingo halls are rented out to sponsoring organizations, and such halls often run games almost every day. Church-run games, however, are normally weekly affairs held on the church premises. These games are usually played for modest stakes, although the final game of a session is frequently a *coverall* game that offers a larger jackpot prize for winning within a certain quantity of numbers called; a *progressive* jackpot may increase per session until it is won.

Commercial bingo games in the US are primarily offered by [casinos](#) (and then only in the state of Nevada), and by Native American bingo halls. In Nevada, bingo is usually offered only by casinos that cater to local gamblers, and not the famous tourist

resorts. They will usually offer several two-hour sessions daily, with relatively modest stakes except for coverall jackpots. Station Casinos, a chain of locals-oriented casinos in Las Vegas, offers a special game each session that ties all of its properties together with a large progressive jackpot. Native American games are typically offered for only one or two sessions a day, and are often played for higher stakes than charity games in order to draw players from distant places. Some also offer a special progressive jackpot game that may tie together players from multiple bingo halls.

As well as bingo played "in house", the larger commercial operators play some games linked by telephone across several, perhaps dozens, of their clubs. This increases the prize money, but greatly reduces the chance of winning due to the much greater number of players.

Caller slang (UK Housie)

Although these numbers are amusing and each has its own story, most professional bingo halls do not use them. If a caller were busy saying "two little ducks", and the number 22 has not yet been said, it is therefore not deemed "called". In an instance where a player may have missed his or her number, and a player is waiting for 22, both players would have valid argument that their number was "called".

There are traditional calls for the numbers. For example:

Number: Slang Expression

1 Kelly's Eye / On it's Own

5 Man Alive

7 Lucky for Some

8 One Fat Lady / The Garden Gate

9 Doctor's Orders

10 (current) PM's Den

11 (Chicken) Legs OR Legs Eleven

13 Unlucky for Some OR Lucky for Some

16 Sweet Sixteen

21 Key of the Door

- 22 Two Little Ducks
- 23 Thee and Me
- 24 Two Dozen
- 30 Dirty Gertie
- 37 More Than Eleven
- 44 Droopy Drawers / All the fours
- 45 Halfway There
- 50 Bulls eye / Blind 50
- 51 Tweak of the Thumb
- 55 Snakes Alive / All the Fives
- 57 Heinz Varieties
- 59 Brighton Line
- 64 Red Raw
- 66 Clickety-Click
- 71 Bang on the Drum
- 76 7 and 6 - Was she worth it? OR Trombones
- 79 One More Time
- 81 Stop and Run
- 86 Between the Sticks
- 88 Two Fat Ladies
- 90 Top of the Shop

Trivia

- An average British game of bingo takes between four and four and a half minutes.
- The average speed of a British bingo caller is 23 numbers per

minute.

- The average time to check a winning claim is 30 seconds.
- There is a UK Caller of the Year Competition in which bingo callers compete for a cash prize and the chance to call the numbers in Las Vegas, as well as to become the bingo 'ambassador' for Britain.

Alternate variations

Two notable modern variations of bingo have achieved some kind of status in American culture:

- Buzzword bingo (also called *bullshit bingo*)
- Bovine bingo

Chinese Poker

Chinese poker is a card game that has been played in the Asian community for many years. It has begun to gain popularity in the broader world of game players because it has all the features of a good gambling game:

- It is easy to learn.
- Anyone who knows the rank of Poker hands can begin playing after a few minutes of instruction.
- There is a large element of luck, so that a beginner has a real chance of winning, even against experienced opponents. Also, it is plausible for poor players to attribute bad results to their cards rather than their plays.
- There is still enough skill in the game that experts have a significant advantage when playing poor players.

Although it is basically a four player game, it plays well with 2, 3, 5, or even more players. It is fun to play. Unexpected results and interesting hands are common.

Playing a Hand

In Chinese Poker, each player receives a 13 card hand from a standard 52 card deck. He then has to divide his cards into three Poker hands, two containing five cards each and one three card hand. The only restriction is that **both five card hands must outrank the**

three card hand (Note: straights and flushes do not count in the three card hand). The higher ranking of the five card hands, called the Back hand, is placed face down on the table in front of the player. Then the other five card hand, called the Middle hand, is placed face down in front of the Back hand. Finally, the three card hand, called the Front hand, is placed (again face down) in front of the middle hand. When all four players have set their hands, the cards are turned face up and the deal is scored.

Scoring

Many variations of scoring are in common use. Refer to the external links for more information.

Chuck-a-luck

More of a carnival game than anything else (no gaming commission in the world will allow it), **Chuck-a-luck** is a simple [gambling](#) game. There is a cage containing three [dice](#). Players have the option of betting on the numbers 1 through 6. Should one of your numbers come up once, you get paid even money. Should one of your numbers come up twice you get paid 2-1. Should your number come up three times, you get paid 3-1.

Even an elementary examination will find that the game's expected value (barring loaded dice, which are common), is far worse than that of any other table game. The game is sometimes used as a fundraiser for charity, but the odds of coming away with more money than originally put in are quite small.

Two-up

Two-up (also known as *swei* or *swy*) is a [gambling](#) game, and one of Australia's many contributions to the world of gambling (another being the totalisator).

Rules of the Game

The game is conducted in a flat circle of approximately 20 feet (6 metres) or larger. The only equipment required (aside from materials for tracking bets) is two coins (by tradition pre-decimal pennies), and a flat piece of wood called the "kip" approximately 8 inches in length which has holes carved in it to fit the coins neatly but loosely enough

for the coins to come out when tossed.

The game is run by a "boxer", who calls the first "spinner" (one of the players around the circle) in to toss the coins. The spinner wagers an amount of their choice on either "heads" or "tails". Other players around the ring can then also bet on either "heads" or "tails".

Once all bets are taken, the boxer calls "no more bets", and the player tosses the coins in the air using the kip. To be a valid throw, they must go above the head height of the spinner, be rotating sufficiently and land entirely in the ring - if they do not the boxer calls "barred" and the throw is retaken. Ideally the call must occur before the coins settle.

If the coins land both on the same face, the round ends and non-spinning players bets are paid off, with people who bet on the same face as that landed winning. A new round of non-spinner bets is then taken before the spinner throws again.

If the coins come up with one tail and one head, the spinner spins again. If 5 "odds" come up, all players lose and a new spinner is selected.

If the spinner throws his nominated face three times before either 5 "odds" being thrown in a row, or a spin with both coins being the opposite face, the spinner wins and is paid at 7.5 to 1 (in most modern games).

History

The exact origins of the game are obscure, but it seems to have evolved from "pitch and toss", a gambling game involving tossing a single coin into the air and wagering on the result of the toss which was popular amongst poorer English and Irish citizens in the 18th century. The predilection of the convicts for this game was noted as early as 1798 by the colony's first Judge Advocate, as well as the lack of skill and consequent losses at it.

There is evidence to suggest that pitch and toss had evolved into two-up, using two coins by the 1850's, and the game was played on the goldfields of the eastern states, and spread across the country with subsequent goldrushes elsewhere in Australia. As time passed, increasingly elaborate illegal "two-up schools" grew around Australia, to the consternation of authorities but in fact with the assistance of corrupt police officers.

The game was played extensively by Australia's soldiers during World War I, and games of two-up at which an even blinder official eye was cast became a regular part of ANZAC Day celebrations for the returned soldiers.

The games continued illegally for most of the 20th century

throughout Australia, exclusively involving men and usually only Anglo-Australian men.

Legal two-up arrived in Australia with its introduction as a "table" game at the new casino in Hobart in 1973. Laws were subsequently passed legalising two-up on Anzac Day and also legalising it at several two-up schools in outback towns (mainly as a tourist attraction). Two-up is now played at many of Australia's casinos, but it is generally dropping out of the culture with the mainstream adoption of [slot machines](#) and most young Australians have barely heard of the game. It is also played at Returned Serviceman's Leagues on Anzac Day.

Casino

A **casino** is a building that accommodates certain types of [gambling](#) games and activities. Customers may gamble by playing [slot machines](#) or other games of chance and some skill (e.g., [craps](#), [roulette](#)—for more see [casino games](#)). Game rules usually have mathematically-determined odds that ensure the house retains an advantage over the players. This advantage is called the *edge*. *Payout* is the percentage given to players. In games such as poker, the house takes a commission (a "rake") on bets players make against each other. Casinos are often placed near or combined with hotels, restaurants and other vacation attractions to encourage long stays.

The term originally meant a small villa, summerhouse or pavilion built for pleasure, usually on the grounds of a larger Italian villa or palazzo. There are examples of such casinos at Villa Giulia and Villa Farnese. During the 19th century, the term casino came to include other more public buildings where pleasurable activities, including gambling and sports, took place. An example of this type of building is the Newport Casino. Eventually this term in Italian now designates a bordello (also called "casa chiusa" literally "closed house"), while the gambling house is spelled *casinò* with an accent.

See also

- [Online casino](#)
- [Casino Night](#)
- [Casino game](#)

[Casino Night](#) | [Croupier](#) | [Casino Token](#) | [Locals Casino](#) | [Cheating](#)

Casino Night

A **Casino Night** (also called Vegas Nights, Las Vegas Nights, Monte Carlo Nights, Casino Parties) is an entertainment event with a [casino](#) theme.

Casino Night Parties are usually tied to a fundraiser, and are often held on riverboats, in churches, hotels etc. The main objective of most casino night parties is to raise money for a specific cause (such as cancer research, community services, etc) by having each participant purchase a ticket for the event. Each participant receives a specific amount of play money that can be used to purchase gaming chips at the gambling tables. The participants engage in various [casino games](#) (such as [blackjack](#), [roulette](#), [baccarat](#), [craps](#), [poker](#), wheel of fortune, etc.) in the attempt to accumulate the largest amount of gaming chips. At the end of the evening the participant who managed to win the most chips receives some kind of prize.

Casino Nights function strictly as entertainment events with no real [gambling](#) involved.

Croupier

A **croupier** is the person who takes and pays out bets at a [gambling](#) table, often in a [casino](#). The croupier is standing in for the house but usually has no personal stake in the game. Games that commonly use croupiers are [blackjack](#), [roulette](#), [baccarat](#) and [craps](#).

The word may also be used to refer to the person who sits as assistant chairman at the lower end of the table at a dinner party.

The modern usage derives from Old French, where it referred to the hindmost person of two riding the same horse. The word croup referred to the rump of a quadruped; a person who rides behind another person on a horse is seated on the animal's rump, hence the name.

Casino Token

Casino tokens are small colored metal or plastic discs used in [gambling](#) establishments in lieu of currency or coins.

There are two types of tokens used in [casinos](#): multicolor tokens of various denominations called **chips**, used primarily in table games; and metal **token coins**, used primarily in slot machines.

Money is exchanged for the token coins or chips in a casino at a

cashier station (the cage), at the gaming tables, or at a slot machine. The tokens are interchangeable with money at the casino, but have no value outside of the establishment.

These tokens are employed for several reasons. They are more convenient to use than currency, and also make theft more difficult. Because of the uniform size and regularity of stacks of chips, they are easier to count than paper currency when used on a table. They also allow the pit boss or security to quickly verify the amount being paid, reducing the chance that a dealer might be overpaying a customer.

Furthermore, it is observed that consumers gamble more freely with replacement currencies than with cash.

Finally, the chips are considered to be an integral part of the casino environment, and replacing them with some alternate currency would be unpopular. However, many casinos are moving to paper receipts.

Casino tokens are collected as a part of numismatics, more specifically as specialized exnumia collecting.

Chip Denominations

Chips of the same denomination from different casinos tend to have similar colors. This increases familiarity with denominations.

The most common color scheme used in US casinos:

- \$1.00: White (uncommon: blue, grey)
- \$2.50: Pink
- \$5.00: Red
- \$25.00: Green
- \$100.00: Black
- \$500.00: Purple
- \$1000.00: Orange (often oversized)

History

After the increase in the value of silver stopped the circulation of silver dollar coins around 1964, casinos rushed to find a substitute, as most [slot machines](#) at that time used that particular coin. The Nevada Gaming Board consulted with the US Treasury, and casinos were soon allowed to start using their own tokens to operate their slot machines. The Franklin Mint was the main minter of tokens at that time.

In many jurisdictions, casinos are not permitted to use currency in slot machines, necessitating tokens for smaller denominations.

Tokens are being phased out of many casinos in favor of coinless machines which accept banknotes and print receipts for payout. (These receipts can also be inserted into the machines.)

Future

In certain casinos, such as the new Wynn Casino in Las Vegas, chips are embedded with RFID to help casinos keep better track of them, determine gamblers' average bet sizes, and to make them harder for counterfeiters to reproduce. However, this technique is considered by many to be unnecessary and unlikely to be used for certain games, such as craps.

Locals Casino

A **locals casino** is a casino designed to attract residents of the area in which it was built rather than tourists or vacationers. The term is most commonly associated with Las Vegas.

Locals casinos usually have a different mix of games than other casinos in the area. They usually offer higher payouts, with some video poker machines offering payout of greater than 100%, to attract the those who live in the area. Local casinos can range from locations with fewer than 15 machines like in a bar with no lodging to resorts that have hundreds of machines and hotels with hundreds of rooms.

Locals casinos in Vegas will offer games not available in Strip casinos like [bingo](#). They frequently include bowling, movie theaters and occasionally day care.

Cheating

Cheating in casinos refers to cheating the games played in casinos.

Casino cheating is usually defined as actions which against the rules of the casino. Cheating may or may not be illegal depending on the jurisdiction of the casino.

Methods of cheating

The methods for cheating in a casino are often specific to individual games.

Pastposting

After a bet is won, one replaces smaller denomination chips with chips of large denomination.

Card counting

Keeping track of which cards have been played at such games as [Blackjack](#). Technically not cheating because the card counter is doing nothing to affect the odds of the game, but is using all available information to make intelligent wagering decisions.

Hand Mucking

Palming desirable cards then switching them for less desirable cards that the gambler holds.

Marking Cards During Play

Various methods.

Introducing Previously Marked Decks Into Play

Usually involves "inside" help, i.e., the collusion of casino employees. There are many different way to mark decks of cards, some of them very difficult to detect.

False Deals

Ability to deal the second card from the top (used in conjunction with marked cards), or the ability to deal the bottom card of the deck (used in conjunction with placing desirable cards at the bottom of the deck.)

False Shuffles and Cuts

Ability to seemingly mix and cut the cards while retaining certain cards or the whole deck in a desired order.

Slot Machines

Methods exist for altering the outcome of slot machine games.

Collusion

In poker games, the practice of two partners signalling to each other the values of their cards; this can be very difficult to detect.

How casinos combat cheating

Proper Procedure

This means certain standardized ways of shuffling cards, dealing cards, storing, retrieving and opening new decks of cards, etc.

Eyes in the Sky

Most casinos have an extensive array of cameras and recorders which monitor and record all the action in a casino. Some casinos use facial recognition software to detect known

cheats or card counters/advantage players as they enter the casino.

Software

Casinos use software to analyze game play to uncover any unusual betting patterns or winning patterns and thus discern cheaters, card counters, and "advantage players".

Online Casino

Online casinos can for certain games offer better odds than land casinos on slots and other formats where the chance of winning is determined by the house. Table games like [blackjack](#) have an established house edge; for a given set of rules, they offer the same payout, online or offline. Reliability and trust are hard to establish. To solve this issue, many online casinos purchase their software from well-known companies such as Wager Works, Microgaming, Playtech and Cryptologic, though a little research into credentials of any e-commerce site you plan to use is common sense. These software companies use a random number generator to ensure that the numbers, cards or dice appear randomly. All reputable companies operating in a regulated environment use robust random number generators.

Legality

See [online gambling](#) for a discussion of the legality of playing at an online casino.

Casino types

Online casinos can be divided into two groups based on their interface: web-based casinos and download-based casinos. Some casinos offer more than one interface.

Web-based online casinos

Web-based online casinos are websites where users may directly play casino games without loading any software to the local computer. Games are mainly represented in the browser plugins Macromedia Flash, Macromedia Shockwave, or Java and require browser support

for mentioned plugins. Also, bandwidth is needed since all graphics, sounds and animations are loaded through the web via the plugin. A very small number of casinos allow games played through a plain HTML interface.

Download-based online casinos

Download-based online casinos are the most common casino web sites. On these websites, users have to download certain software to play casino games. After installing the software, it connects to the casino service provider and handles contact without browser support. An advantage of these compared to web-based online casinos is speed, since it does not need to load graphics from the Internet because all multimedia is inside the downloaded software. On the downside, there is an initial download and the need for the installation of the program, and the risk of the program containing malware (though this is very uncommon).

Games offered

A typical selection of games on offer at an online casino might include: [blackjack](#), [roulette](#), [baccarat](#), [craps](#), [pai gow poker](#), [video poker](#), and [slot machines](#).

See also [casino game](#).

Bonuses

Many online casinos offer large bonuses, often a "100% match bonus". For example, common terms and conditions for a bonus might be:

- 100% up to \$100
- Must wager 25 times the deposit and bonus before withdrawing
- Wagers on [baccarat](#), [craps](#), [roulette](#), and [sic bo](#) do not count towards meeting wagering requirements

For this particular example, this would mean that a player depositing \$100 would start with \$200 in his account. He must make \$5000 ($\$200 \times 25$) in wagers before withdrawing. This can be played at a game such as [blackjack](#).

Some simple arithmetic shows that if the player leaves after meeting the requirements, he has a very large edge. For example, the

house edge in blackjack is around or less than 0.5% at most online casinos. $\$5000 \times 0.005 = \$25$. Therefore, the player expects to show a \$25 loss — however, he was given a \$100 bonus. Therefore, the player's expected profit is \$75, a massive 75% advantage. Usually, taking advantage of such a promotion is the only way to gain an edge over the casino.

This has often led to players playing at casinos to take the bonus, and leaving after the wagering requirements are met. These players are called by (and have adopted with pride) a variety of labels such as "advantage players", "bonus hunters", "bonus abusers", and, perhaps the most vulgar, "bonus whores". Strictly speaking, this behavior is usually prohibited by the casino, because their terms usually dictate that players may play for recreational purposes only. In practice, players are rarely caught doing this, and usually when they are they simply have their promotion privileges revoked.

A player who wishes to do this at a large number of online casinos must be careful. Some casinos are rogues (see below) and do not pay. Others have terms and conditions that are not favorable to the player, such as most bonuses that are restricted to slots.

Rogues

Occasionally a **rogue casino** will be discovered. There are two ways a casino might misbehave: refusing to pay customers or cheating software.

Cheating software appears to be extremely rare. There are some casinos that have been mathematically proven to cheat, such as Casino Bar (evidence by Michael Shackleford and others). Some players often accuse certain popular software brands of casinos of cheating, for example Boss Media, Cryptologic, and Playtech, but they are likely "finding" patterns that are not actually there, as tests for cheating at these casinos has never turned up positive. This does not mean that all software providers are honest (for example, Elka System/Oyster Gaming software is known to cheat, also confirmed by Michael Shackleford), but the most popular software is more likely than not.

Player fraud

Although there is the occasional rogue casino, sometimes it's the players who are deceitful or irresponsible. One of the most common cases is a player who signs up for multiple accounts at a casino using fake names to reap the bonus more than once. Another player might

use Adobe Photoshop or a similar tool to manipulate the graphics of a slot machine screenshot to try to fool the casino into believing she hit a jackpot and didn't get paid for it. These are invariably gross violations of the terms of service of the casino and usually are frowned upon, even by many "bonus hunters". Casinos do not tolerate such behavior and will usually lock the account or accounts of the player responsible, and may inform other casinos and/or the software provider to keep the player out of other casinos.

See also

- [Casinos](#)
- [Gambling](#)
- [Poker](#)
- [Online poker](#)
- [Blackjack](#)
- [Craps](#)
- [Sportsbook](#)
- [Pathological gambling](#)
-

[Credit Card](#) | [Debit Card](#) | [Moneybookers](#) | [Neteller](#) | [Wire Transfer](#)

Cheque

A **cheque** (CwE) or **check** (AmE), thought to have developed from Persian †C chek, is a negotiable instrument instructing a financial institution to pay a specific amount of a specific currency from a specific demand account held in the maker/depositor's name with that institution. Both the maker and payee may be natural persons or legal entities.

History

During the first century A.D., banks in the Persia (Iran) and other territories in Persian empire under Sassanid dynasty issued letters of credit known as *Sakks*. They are considered the basis for the modern cheque.

The cheque had its origins in the ancient banking system, in which bankers would issue orders at the request of their customers, to pay money to identified payees. Such an order was referred to as a *bill of*

exchange. The use of bills of exchange facilitated trade by eliminating the need for merchants to carry large quantities of currency (e.g. gold) to purchase goods and services. A *draft* is a bill of exchange which is payable on demand of the payee.

The cheque was originally called a "check" in reference to the counterfoil used to check against forgery and alterations. The spelling "cheque" seems to have been introduced by J. W. Gilbart in 1828 (*A practical treatise on banking*, 2nd ed, 1828, Effingham Wilson, London). He explains in a footnote 'Most writers spell it *check*. I have adopted the above form because it is free from ambiguity and is analogous to the *ex-chequer*, the royal treasury. It is also used by the Bank of England "Cheque Office". According to Holden, the older spelling survived in some English text-books in the 1920s (M J Holden, *History of Negotiable Instruments in English Law*, 1955, University of London Press, London).

The older spelling is more common in the USA, but the UK and most Commonwealth countries have adopted the newer form "cheque".

Parts of a cheque

A cheque shall contain:

1. place of issue
2. cheque number
3. account number MICR
4. date of issue
5. payee
6. amount of currency
7. signature of the drawer

A cheque is generally valid for six months after the date of issue unless otherwise indicated, but this varies depending on where the cheque is drawn. In Australia, for example, it is fifteen months. Legal amount (amount in words) is also highly recommended but not strictly required.

Types of cheques

In the United States, cheques are governed by Article 3 of the Uniform Commercial Code.

- An *order cheque* – the most common form in the US – is payable

only to the named payee or his or her *indorsee*, as it usually contains the language "Pay to the order of (name)."

- A **bearer cheque** is payable to anyone who is in possession of the document: this would be the case if the cheque does not state a payee, or is payable to "bearer" or to "cash" or "to the order of cash", or if the cheque is payable to someone who is not a person or legal entity, e.g. if the payee line is marked "Happy Birthday".

In the United States, the terminology for a cheque varies with the type of financial institution on which it is drawn. In the case of a savings and loan association it is a negotiable order of withdrawal; if a credit union it would be a share draft. Cheques as such are associated with chartered commercial banks, but under Article 3, and thus in common usage, *cheque* is understood to mean any or all of these negotiable instruments.

Usage

Parties to regular cheques generally include a *maker*, the depositor writing a cheque; a *drawee*, the financial institution where the cheque can be presented for payment; and a *payee*, the entity to whom the maker issues the cheque. Ultimately there is also at least one *indorsee* which would typically be the financial institution servicing the payee's account, or in some circumstances may be a third party to whom the payee owes or wishes to give money.

A payee that accepts a cheque will typically deposit it in an account at the payee's bank, and have the bank process the cheque. In some cases, the payee will take the cheque to a branch of the drawee bank, and cash the cheque there. If a cheque is refused at the drawee bank (or the drawee bank returns the cheque to the bank that it was deposited at) because there are insufficient funds for the cheque to clear, it is said that the cheque has *bounced*.

When a maker directs the maker's bank to deduct the funds for the amount of a cheque from the maker's account, thus guaranteeing funds will be available for the cheque to clear, and the bank indicates this fact by making a notation on the face of the cheque (technically called an *acceptance*), the instrument is then referred to as a *certified cheque*.

A cheque used to pay wages due is referred to as a payroll cheque. Payroll cheques issued by the military to soldiers, or by some other government entities to their employees, beneficiaries, and creditors, are referred to as warrants.

A travelers cheque is designed to allow the person signing it to make an unconditional payment to someone else as a result of paying the account holder for that privilege. Travelers cheques can usually be replaced if lost or stolen, they are often used by people on vacation instead of cash. The use of [credit](#) or [debit cards](#) has, however, begun to replace the travelers cheque as the standard for vacation money, with an increase in usage by spenders due to ease of use, and an increase of businesses preferring transfers of this kind over travelers cheques. This has resulted in some businesses to no longer accept travelers cheques as currency.

A cheque sold by a post office or merchant such as a grocery for payment by a third party for a customer is referred to as a money order or postal order.

A cheque issued by a bank on its own account for a customer for payment to a third party is called a cashier's cheque, a **treasurer's cheque** or a **bank cheque**. A cheque issued by a bank but drawn on an account with another bank is a *teller's cheque*.

In addition to issuing cashier's and teller's cheques, banks often sell money orders, and travelers cheques are usually purchased from banks.

Some public assistance programs such as the Special Supplemental Nutrition Program for Women, Infants and Children, or Aid to Families with Dependent Children make vouchers available to their beneficiaries, which are good up to a certain monetary amount for purchase of grocery items deemed eligible under the particular program. The voucher can be deposited like any other cheque by a participating supermarket or other approved business.

Paper checks have a major advantage to the maker over [debit card] or [check card] transactions in that the maker's bank will release the money several days later. Paying with a check and making a deposit before it clears the maker's bank is called "Kiting" and is generally illegal, but rarely enforced unless the maker uses multiple checking accounts with multiple institutions to increase the delay or to steal the funds.

Banks are pushing consumers to adopt [debit cards](#) and check cards, which are more closely related to secured [credit cards](#) than checks. Banks prefer cards to checks because card transactions require funds verification prior to the completion of the transaction. In theory, this should prevent overdrafts but in reality, many banks have adopted authorization policies that permit transactions well in excess of the available account balance. This practice has probably increased overdrafting compared to traditional checks, because the maker does not have the opportunity to make a deposit before the check clears. A [petition] is currently being circulated in the United States asking

Congress to prohibit banks from charging overdraft fees on electronically authorized transactions like credit, debit, ATM, online, and other electronic funds transfer methods. If the proposed legislation should pass, Check Card transactions would truly be much safer than paper checks.

The decline of cheques

Cheques have been in decline for many years, both for point of sale transactions (for which [credit cards](#) and [debit cards](#) are increasingly preferred) and for third party payments (e.g. bill payments), where the decline has been accelerated by the emergence of telephone banking and online banking. Being paper-based, cheques are costly for banks to process in comparison to electronic payments, so banks in many countries now discourage the use of cheques, either by charging for cheques or by making the alternatives more attractive to customers.

In some European countries, for example Germany, Switzerland and Scandinavian countries, cheques are now very rarely used, even for third party payments. In these countries, it is standard practice for businesses to publish their bank details on invoices in order to facilitate the receipt of payments. Even before the introduction of online banking, it has been possible in some countries to make payments to third parties using ATMs. One of the essential procedural differences is that with a cheque, the onus is on the payee to initiate the payment in the banking system, whereas with a bank transfer, the onus is on the payer to effect the payment.

In the United Kingdom and France, there is still a heavy reliance on cheques by some sectors of the population, partly because cheques remain free of charge to personal customers, but bank-to-bank transfers are increasing in popularity. Since 2001, businesses in the United Kingdom have made more electronic payments than cheque payments. In a bid to discourage cheques, most utilities in the United Kingdom charge higher prices to customers who choose to pay by a means other than direct debit, even if the customer pays by another electronic method. Many shops in France no longer accept cheques as a means of payment, and Shell announced in September 2005 that it would no longer accept cheques in its UK petrol stations. Cheques are now widely predicted to become a thing of the past in the United Kingdom

Despite being one of the world's most developed countries, the United States still relies heavily on cheques, caused by the absence of a high volume system for low value electronic payments. When

sending a payment by online banking in the United States, the sending bank usually mails a cheque to the payee's bank rather than sending the funds electronically. This is changing rapidly, however, and certain companies with whom a person pays with a cheque will turn that check into an [Automated Clearing House|ACH] or electronic transaction.

Credit Card

A **credit card system** is a type of retail transaction settlement and credit system, named after the small plastic card issued to users of the system. A credit card is different from a debit card in that the credit card issuer lends the consumer money rather than having the money removed from an account. It is also different from a charge card (though this name is often used to describe credit cards by the public) in that charge cards do not extend the user credit -- the charges must be paid each month in full. In contrast, a credit card allows the consumer to 'revolve' their balance, at the cost of having interest charged. Most credit cards are the same shape and size, as specified by the ISO 7810 standard.

How they work

A user is issued a credit card after an account has been approved by the credit provider (often a general bank, but sometimes a captive bank created to issue a particular brand of credit card, such as American Express Centurion Bank), with which they will be able to make purchases from merchants accepting that credit card up to a preestablished credit limit.

When a purchase is made, the credit card user agrees to pay the card issuer. Originally the user would indicate his/her consent to pay, by signing a receipt with a record of the card details and indicating the amount to be paid, but many merchants now accept verbal authorizations via telephone and electronic authorization using the internet.

Electronic verification systems allow merchants (using a strip of magnetized material on the card holding information in a similar manner to magnetic tape or a floppy disk) to verify that the card is valid and the credit card customer has sufficient credit to cover the purchase in a few seconds, allowing the verification to happen at time of purchase. Other variations of verification systems are used by ecommerce merchants to determine if the user's account is valid and

able to accept the charge.

Each month, the credit card user is sent a statement indicating the purchases undertaken with the card, and the total amount owed. The cardholder must then pay a minimum proportion of the bill by a due date, and may choose to pay more or indeed pay the entire amount owed. The credit provider charges interest on the amount owed (typically at a much higher rate than most other forms of debt).

Credit card issuers usually waive interest charges if the balance is paid in full each month, but typically will charge full interest on the entire outstanding balance from the date of each purchase if the total balance is not paid.

For example, if a user had a \$1,000. outstanding balance for purchases and pays the entire \$1,000. there would be no interest charged. If, however, even \$1.00 of the total balance remained unpaid, interest would be charged on the full \$1,000 from the date of purchase until the payment is received. The precise manner in which interest is charged is usually detailed in a cardholder agreement which may be summarized on the back of the monthly statement. (See The TD Gold Travel Visa Cardholder Agreement Retrieved January 3, 2006)

The credit card may serve as a form of revolving credit, or the user may choose to apply any payments toward recent rather than previous debt. Interest rates can vary considerably from card to card, and the interest rate on a particular card may jump dramatically if the card user is late with a payment on that card or any other credit instrument. As the rates and terms vary, services have been set up allowing users to calculate savings available by switching cards, which can be considerable if there is a large outstanding balance (see external links for some on-line services).

Because profit margins in the credit card industry can be quite high, credit providers often offer incentives such as frequent flier miles, gift certificates, or cash back (typically 1 percent) to try attract customers to their program.

Low interest credit cards or even 0% interest credit cards are available. The only downside to consumers is that the period of low interest credit cards is limited to a fixed term, usually between 6 and 12 months. However, services are available which alert credit card holders when their low interest period is due to expire. Most such services charge a monthly or annual fee.

The Merchant's side

From the merchant's view point, the transaction, if it is made using

a bank credit card, is often much more secure than receiving payment with a check or carrying an unpaid balance because the issuing bank commits to pay the merchant the moment the transaction is verified. The bank charges a commission to the merchant for this service and there may be a certain delay before the agreed payment is received by the merchant. In addition, a merchant may be penalized or have their ability to receive payment using that credit card restricted if there are too many cancellations or reversals of charges.

Secured credit cards

A secured credit card is a type of credit card secured by a deposit account owned by the cardholder. Typically, the cardholder must deposit between 100% and 200% of the total amount of credit desired. Thus if the cardholder puts down \$1000, he or she will be given credit in the range of \$500–\$1000. This deposit is held in a special savings account.

The cardholder of a secured credit card is still expected to make regular payments, as he or she would with a regular credit card, but should he or she default on a payment, the card issuer has the option of recovering the cost of the purchases paid to the merchants out of the deposit.

Often, though, if the cardholder does not make the required payment, many issuers of secured credit cards consider that the account must be paid before the security is released instead of using the security to pay the balance due. The card is not cancelled, the balance is not set off the deposit, and interest continues to accumulate on the unpaid balance for considerable periods of time. In some cases the total charges may far exceed the original deposit and the cardholder not only loses their deposit but is left with an additional debt.

Most of these conditions are usually described in a cardholder agreement which the cardholder signs when their account is opened.

Secured credit cards are an option to allow a person with a poor credit history or no credit history to have a credit card which might not otherwise be available. They are often offered as a means of rebuilding one's credit. Secured credit cards are available with both Visa and MasterCard logos on them. Fees and service charges for secured credit cards often exceed those charged for ordinary non-secured credit cards.

Features

As well as convenient, accessible credit, the cards offer consumers an easy way to track expenses, which is necessary both for monitoring personal expenditures and the tracking of work-related expenses for taxation and reimbursement purposes. They have now spread worldwide, and are offered in a huge variety of permutations with differing credit limits, repayment arrangements (some cards offer interest-free periods, while others do not but compensate with much lower interest rates), and other perks (such as rewards schemes in which points "earned" for purchasing goods with the card can be reclaimed for further goods and services).

Some countries such as the United States limit the amount that a consumer can be held liable for due to fraudulent transactions as a result of a consumer's credit card being lost or stolen.

Security

The low security of the credit card system presents countless opportunities for fraud. This opportunity has created a huge black market in stolen credit card numbers, which are generally used quickly before the cards are reported stolen.

The goal of the credit card companies, as they say, is not to eliminate fraud, but to "reduce it to manageable levels", such that the total cost of both fraud and fraud prevention is minimized. This implies that high-cost low-return fraud prevention measures will not be used if their cost exceeds the potential gains from fraud reduction.

Most Internet fraud is done through the use of stolen credit card information which is obtained in many ways, the simplest being copying information from retailers, either online or offline. There have been many cases of hackers obtaining huge quantities of credit card information from company databases. Not unusual are cases of employees of companies that deal with millions of customers in which they were selling the credit card information to criminals.

Despite efforts to improve security for remote purchases using credit cards, systems with security holes are usually the result of poor implementations of card acquisition by merchants. For example, a website that uses SSL to encrypt card numbers from a client may simply email the number from the webserver to someone who manually processes the card details at a card terminal. Naturally, anywhere card details become human-readable before being processed at the acquiring bank is a security risk. However, many banks offer systems such as ClearCommerce, where encrypted card details captured on a merchant's webserver can be sent directly to the payment processor.

The Federal Bureau of Investigation is the agency responsible for prosecuting criminals who engage in credit card fraud in the United States, but they do not have the resources to pursue all criminals. In general, they only prosecute in cases exceeding \$5,000 in value. Even though the FBI usually does not investigate, most common credit card networks have not implemented procedures to prevent credit card fraud. Three improvements to card security have been introduced to the more common credit card networks but none has proven to help reduce credit card fraud so far. First, the on-line verification system used by merchants is being enhanced to require a 4 digit Personal Identification Number (PIN) known only to the card holder. Second, the cards themselves are being replaced with similar-looking tamper-resistant smart cards which are intended to make forgery more difficult. The majority of smartcard (IC card) based credit cards comply with the EMV (Europay MasterCard Visa) standard. Third, an additional 3 or 4 digit code is now present on the back of most cards, for use in "card not present" transactions. See CVV2 for more information.

Profits and losses

Credit card issuers (banks) cover their costs (including the interest costs for the money that is paid to merchants prior to the bank being paid by customers), and earn profits, by:

- Interchange fees. Interchange fees are charged by the merchant's acquirer to a card-accepting merchant as component of the so-called merchant discount fee. The merchant pays a merchant discount fee that is typically 2 to 3 percent (this is negotiated), which is why some merchants prefer cash, [debit cards](#), or even [checks](#). The majority of this fee, called the interchange fee, goes to the issuing bank, but parts of it go to the processing network, the card brand (Visa, MasterCard, etc.), and the merchant's acquirer. The interchange fee that applies to a particular merchant is a function of many variables including the type of merchant, the merchant's average ticket dollar amount, whether the cards are physically present, if the card's magnetic stripe is read or if the transaction is hand-keyed, the specific type of card, when the transaction is settled, the authorized and settled transaction amounts, etc. For a typical credit card issuer, interchange fee revenues may represent about fifteen percent of total revenues.
- Charging interest on outstanding balances. Customers who do

not pay in full the amount owed on their monthly statement (the "balance") by the due date (that is, at the end of the "grace period") owe interest ("finance charges"). These customers are known in the industry as "revolvers". Those who pay in full (pay the entire balance) do not. These customers are known in the industry as "transactors" or "deadbeats". Interest charges vary widely from card issuer to card issuer. Often, there are "teaser" rates in effect for initial periods of time (as low as zero percent for, say, six months), whereas rates for those with poor credit can be as much as 29.74 percent (annualized). In the U.S. rules governing interest rates are set at the state level; some banks have chosen to establish their credit card operations in states such as South Dakota that have less restrictive limits on interest rates.

- Fees charged to customers. The major fees are for (1) payments received late (past the "grace period"); (2) charges that result in exceeding the credit limit on the card (whether done deliberately or by mistake); (3) cash advances and convenience checks (often 3 percent of the amount); (4) transactions in a foreign currency (as much as 3 percent of the amount; a few financial institutions charge no fee for this); and (5) an annual payment.

Credit card companies generally do provide a guarantee the merchant will be paid on legitimate transactions regardless of whether the consumer pays their credit card bill. However, credit card companies generally will not pay a merchant if the consumer challenges the legitimacy of the transaction and will fine merchants who have a large number of chargebacks.

In recent times, credit card portfolios have been exceedingly profitable to banks, largely due to the booming economy of the late nineties. However in the case of credit cards, such high returns go hand in hand with risk, since the business is essentially one of making unsecured (uncollateralized) loans, and thus dependent on borrowers to not default in large numbers.

In some areas, such as Ireland, governments profit from credit cards through the imposition of a stamp duty or credit card tax. This is usually done where a [cheque](#) tax previously existed. This tax is taken automatically from the account, just like a purchase, by the bank on behalf of the government annually. This tax - unlike its cheque counterpart - is payable in arrears so no refund is possible.

History

The credit card was the successor of a variety of merchant credit schemes. It was first used in the 1920s, in the United States, specifically to sell fuel to a growing number of automobile owners. In 1938 several companies started to accept each other's cards.

The concept of paying merchants using a card was invented in 1950 by Frank X. McNamara in order to consolidate multiple cards. The Diners Club produced the first charge card, which is similar but required the entire bill to be paid with each statement; it was followed shortly thereafter by American Express.

Bank of America created the BankAmericard in 1958, a product which eventually evolved into the Visa system ("Chargex" also became Visa). MasterCard came to being in 1966 when a group of credit-issuing banks established MasterCharge. The fractured nature of the US banking system meant that credit cards became an effective way for those who were travelling around the country to, in effect, move their credit to places where they could not directly use their banking facilities.

There are now countless variations on the basic concept of revolving credit for individuals (as issued by banks and honored by a network of financial institutions), including organization-branded credit cards, corporate-user credit cards, store cards and so on.

In contrast, although having reached very high adoption levels in the US and the UK, it is important to note that in other cultures which were much more cash-oriented in the latter half of the twentieth century such as Germany, France, Switzerland among many others, take-up of credit cards was initially much slower. It took until the 1990s to reach anything like the percentage market-penetration levels achieved in the USA or UK. In many countries acceptance still remains poor as the use of a credit card system depends on the banking system being perceived as reliable.

In contrast because of the legislative framework surrounding banking system overdrafts, some countries, France in particular, were much faster to develop and adopt chip-based credit cards which are now seen as major anti-fraud credit devices.

Controversy

Credit card companies do not want merchants to charge credit card users more than they charge other customers, even though the merchant pays a fee of 2 to 3 percent (merchants negotiate an exact percentage with their banks) to process credit payments. In some countries this fee may be significantly more. If customers were responsible for this fee, it would often discourage credit card usage.

In many places, governments have passed laws (at the urging of the credit card industry) to make this illegal. Despite this, some retailing sectors flout this regulation, especially in areas of very competitive, commodity products such as personal computers, where the fine print of an advertisement states "prices already cash discounted -- surcharge for credit card". Other retailers offer incentives or bonus coupons for using cash, such as Canadian Tire Money.

Some critics have observed that this results in what is effectively a hidden tax on all transactions conducted by merchants who accept credit cards since they must build the cost of transaction fees into their overall business expense. The end result is that cash consumers are essentially subsidizing credit card holder purchases. The cost of the convenience enjoyed by card holders and the profits taken from transaction fees by the card industry (which has come to rely increasingly on this revenue stream over the years) is partially offloaded onto the backs of the cash consumer. Critics go on to say that further compounding the issue is the fact that the consumers most likely to pay in cash are the least able to afford the additional expense (card holders are more likely to be affluent, non-card holders less so). Australia is currently acting to reduce this by allowing merchants to apply surcharges for credit card users. In the United Kingdom, merchants won the right through The Credit Cards (Price Discrimination) Order 1990 to charge customers different prices according to the payment method, but few merchants do so (the most notable exceptions being budget airlines and travel agents).

However, there also exists an economic argument that credit card use increases the "velocity" of money in an economy, the result, higher consumer spending rates and higher GDP. Although there is many a sad story of credit card abuse, the trend is increasing use, with some predicting a cashless society in the not so distant future. There is some controversy about credit card usage in recent years. Credit card debt has soared, particularly among young people. The major credit card companies have been accused of targeting a younger audience, in particular college students, many of whom are already in debt with college tuition fees and college loans, and who typically are less experienced at managing their own finances. Credit card usage has tripled since 2001 amongst teenagers as well. The United Kingdom is the world's most credit-card-intensive country, with 67 million credit cards for a population of 59 million people.[\[1\]](#)

Since the late 1990s, lawmakers, consumer advocacy groups, college officials and other higher education affiliates, have become increasingly concerned about the rising use of credit cards among college students. A recent study by United College Marketing Services has shown that student credit lines have swollen to over \$6,000. Since

eighteen year-olds in many countries and most U.S. states are eligible for a card without parental consent or employment, the likelihood of increased balances, unwise use of credit and damaged credit scores increases.

According to Larry Chiang of UCMS, an example of a credit card class action was where issuers were "rolling back" posting times to extract more late fees. The due dates were "rolled back" from 1pm to 10am because mail was delivered in the afternoon so due dates were actually rolled back to charge more late fees. The following banks are listed (with the amounts penalized) in this one particular class action.

- Provident: \$405m
- Citibank: \$15.5m
- Chase: \$22.2m
- Bank One: \$40m

Another controversial area is the universal default feature of many North American credit card contracts. When a cardholder is late paying a particular credit card issuer, that card's interest rate can be raised, often considerably. Given this circumstance with one credit card, universal default allows other card issuers to raise the cardholder's interest rates on other accounts, even if those other accounts are not in default.

In the USA, Congress has been slow to introduce credit card reform legislation. A push toward expanding the disclosure box and incorporating balance payoff disclosures on credit card statements would go a long way in clarifying credit card debt's ramifications.

Credit card numbering

The numbers found on credit cards have a certain amount of internal structure, and share a common numbering scheme.

The card number's *prefix* is the sequence of digits at the beginning of the number that determine the credit card network to which the number belongs. The card number's *length* is its number of digits.

The prefixes and lengths for the most common card types are:

Card Type	Prefix(es)	Length
American Express	34 or 37	15
BankCard	560–561	16
Diners Club / Carte Blanche*	300–305, and 38	14
Discover Card	6011,6500–6509**	16
JCB	3	16
JCB	1800,2131	15
MasterCard	51–55, 36	14,16
Visa	4	13 or 16

*As of November 8, 2004, MasterCard purchased the domestic (US) Diner's Club BIN range. Diner's Club International BIN range will remain (starting with 38), but the 36 bin range will now be processed as MasterCards.

**As of October 1st, 2005, Discover Bank will include a new BIN in the range of 650000–650999.

In addition, the first 6 digits of the credit card number are known as the Bank Identification Number (BIN). These identify the institution that issued the card to the card holder.

Some credit card issuers choose to restrict the card numbers they issue to those which pass a checksum test, where the final digit of the card number is used to confirm the initial digits.

This has two benefits of preventing casual attempts to invent credit numbers (only one in ten will be valid), and also prevent mistakes when the card number is manually recorded. The checksum test for credit card numbers is the *Luhn formula*, described in Annex B to ISO/IEC 7812, Part 1.

American Express, in particular follows the following specific algorithm:

- First 4 numbers, country code, currency code and card type (ie charge or credit card)
- Next 2, card type (ie gold, platinum)
- Next digit, billing cycle
- Next 4 digits, account number
- Fourth from last, card issue (begins at 1 and will go up if it's replaced because the card is lost or stolen)
- Next two, card issued under the account (ie if there are additional card holders. begins at 00 and increments)
- Last number, Luhn-10 check digit (used for verification)

Credit card organizations

American Express
Citi
China UnionPay
Diners Club
Discover
JCB
MasterCard
VISA

Collectible credit cards

A growing field of numismatics (study of money), or more specifically Exonumia (study of money-like objects), credit card collectors seek to collect various embodiments of credit from the now familiar plastic cards to older paper merchant cards, and even metal tokens that were accepted as merchant credit cards. Early credit cards were made of celluloid, then metal and fiber, then paper and are now mostly plastic.

See also

- [Debit card](#)

Debit Card

A **debit card** is an ISO 7810 card which physically resembles a [credit card](#), and, like a credit card, is used as an alternative to cash when making purchases. However, when purchases are made with a debit card, the funds are withdrawn directly from the purchaser's current/checking or savings account at a bank.

Types of debit card

Although many debit cards are of the Visa or MasterCard brand, there are many other types of debit card, each accepted only within a particular country or region, for example Switch in the United

Kingdom, Carte Bleue in France, Laser in Ireland, and EC (formerly Eurocheque) in Germany, Switzerland and Austria. The need for cross-border compatibility and the advent of the euro recently led to many of these card networks being rebranded with the internationally recognised Maestro logo, which is part of the MasterCard brand. Some debit cards are dual branded with the logo of the former national card as well as Maestro.

Banks in France charge annual fees for debit cards (despite card payments being very cost efficient for the banks), yet they do not charge personal customers for chequebooks or processing cheques (despite cheques being very costly for the banks). This imbalance most probably dates from the unilateral introduction in France of Chip and PIN debit cards in the early 1990s, when the cost of this technology was much higher than it is now. Credit cards of the type found in the United Kingdom and United States are unusual in France and the closest equivalent is the deferred debit card, which operates like a normal debit card, except that all purchase transactions are postponed until the end of the month, thereby giving the customer between 1 and 31 days of interest-free credit. The annual fee for a deferred debit card is around €10 more than for one with immediate debit. Most French debit cards are branded with the Carte Bleue logo, which assures acceptance throughout France. Most card holders choose to pay around €5 more in their annual fee to additionally have a Visa logo on their Carte Bleue, so that the card is accepted internationally. A Carte Bleue without a Visa logo is often known as a "Carte Bleue Nationale" and a Carte Bleue with a Visa logo is often known as a "Carte Bleue Internationale". Many smaller merchants in France refuse to accept debit cards for transactions under €15.25 (equivalent to 100 French Francs) because of the minimum fee charged by merchants' banks per transaction. Merchants in France do not differentiate between debit and credit cards, and so both have equal acceptance.

In the United Kingdom, banks started to issue debit cards in the late 1980s in a bid to reduce the number of cheques being used at the point of sale, which are costly for the banks to process. As in most countries, fees paid by merchants in the United Kingdom to accept credit cards are a percentage of the transaction amount, which funds card holders' interest-free credit periods as well as incentive schemes such as points, airmiles or cashback. On the contrary, debit cards do not usually have these characteristics, and so the fee for merchants to accept debit cards is a low fixed amount, regardless of transaction amount. This means it is cheaper for a merchant to accept a debit card for a large amount and to accept a credit card for a small amount. Although merchants won the right through The Credit Cards (Price Discrimination) Order 1990 to charge customers different prices

according to the payment method, few merchants in the UK charge less for payment by debit card than by credit card, the most notable exceptions being budget airlines, travel agents and IKEA. Debit cards in the UK lack the advantages offered to holders of UK-issued credit cards, such as free incentives (points, airmiles, cashback etc), interest-free credit and protection against defaulting merchants under Section 75 of the Consumer Credit Act 1974. Despite these disadvantages of debit cards over credit cards, many people in the UK prefer paying with debit cards rather than credit cards, often because they fear that using credit cards will result in accumulation of unmanageable debts. All establishments in the United Kingdom that accept credit cards also accept debit cards (although not always Solo and Visa Electron), but a minority of merchants, for cost reasons, accept debit cards and not credit cards (for example the Post Office).

In Germany and Belgium, many merchants, including most supermarkets, do not accept credit cards because of the higher fees charged by their banks. However, most merchants usually accept debit cards, because the fees for accepting them are much lower, for example in Germany 0.3% with a minimum of €0.08.

Online and offline debit cards

There are currently two ways that debit card transactions are processed: online debit cards and offline debit cards. Online debit cards are essentially enhanced automatic teller machine (ATM) cards, as they use the same personal identification number (PIN) authentication system and debits are reflected in the user's account immediately. The PIN authentication is much more secure than the alternative signature (used in offline debit cards). One difficulty in using online debit cards is the necessity of a separate keypad at the point of sale (POS) to enter the PIN, although this is becoming commonplace for all card transactions in many countries. Overall, the online debit card is generally viewed as superior to the offline debit card because of its more secure authentication system and live status, which alleviates problems with processing lag on transactions that may have been forgotten or not authorized by the owner of the card. Banks in some countries, such as Canada, only issue online debit cards.

Offline debit cards have the logos of major credit cards (e.g. Visa or MasterCard) or major debit cards (e.g. Maestro) and are used at point of sale like a credit card. This type of debit card may be subject to a daily limit, as well as a maximum limit equal to the amount currently deposited in the current/checking account from which it

draws funds. Offline debit cards in some countries are not compatible with the PIN system, in which case they can be used with a forged signature, since users are rarely required to present identification. Transactions conducted with offline debit cards usually require 2-3 days to be reflected on users' account balances. This type of debit card is similar to a secured credit card.

Many debit cards are actually capable of accomplishing both types of transactions, depending on the availability of proper equipment at the POS.

In the United Kingdom, Solo and Visa Electron are examples of online debit cards, which are typically issued by banks to customers whom the bank does not want to go overdrawn under any circumstances, for example under-18s.

"Credit" and "debit" purchases

In some countries (e.g. the United States), terminals allow the user of a Visa or MasterCard debit card to choose whether the purchase is a "credit" or "debit" purchase. In a "credit" purchase, the user signs a charge slip (as in a traditional credit card purchase); in a "debit" purchase, the user enters a PIN. In either case, the user's bank account is debited.

In some countries and with some merchant service organisations (as of this writing), a "credit" transaction is without cost to the purchaser beyond the face value of the transaction, while a small fee may be charged for "debit" transactions (although it is often absorbed by the retailer.) Other differences are that "debit" purchasers may opt to withdraw cash in addition to the amount of the debit purchase (if the merchant supports that functionality); also, from the merchant's standpoint, the merchant pays lower fees on a "debit" transaction as compared to "credit" transactions.

The fees charged to merchants on "credit" debit card purchases -- and the lack of fees charged merchants for processing "debit" debit card purchases and paper checks -- have prompted some major merchants to file lawsuits against debit-card transaction processors such as Visa and MasterCard. Visa and MasterCard recently agreed to settle the largest of these lawsuits and agreed to settlements of billions of dollars.

Many consumers prefer "credit" transactions because of the lack of a fee charged to the consumer/purchaser -- and many terminals at PIN-accepting merchant locations now make the "credit" function more difficult to access. Also, in the case of a benign or malicious error by the merchant and/or bank, a debit transaction may cause

more serious problems (e.g. money not accessible; overdrawn account) than in the case of a credit or charge card transaction (e.g. credit not accessible; over credit limit).

To the consumer, a debit transaction is real-time; i.e. the money is withdrawn from their account immediately following the authorization request from the merchant. This is in contrast to a typical credit card or charge card transaction which can have a lag time of a few days before the transaction is posted to the account, and many days to a month or more before the consumer makes repayment with actual money.

Chip and PIN

In many countries, the use of PIN validated transactions with smartcard chip readers is being strongly encouraged by the banks as a method of reducing cloned-card fraud; to the extent that cardholder-present transactions will soon not be possible in these countries without knowledge of a PIN, and the POS terminal reading the smart card chip on the card.

Popularity

Debit cards and secured credit cards, are popular among college students who have not yet established a credit history. There are also forms of debit cards (e.g. Visa Buxx) that are purchased by parents for teenagers as young as 13. The parent retains a great deal of control over the child's use of the cards.

Debit cards are also similar to stored-value cards in that they represent a finite amount of money owed by the card issuer to the holder. They are different in that stored-value cards are generally anonymous, while debit cards are generally associated with an individual's bank account. Debit cards usually offer some protection against loss, theft, or unauthorized use while stored-value cards usually do not.

Moneybookers

Moneybookers is a UK-based fund-transfer company, resembling PayPal. Moneybookers is a tool that allows people to send and receive money via e-mail. Users can send money from a [credit card](#), or transfer money to and from a bank account. Moneybookers is free for

sellers except for a flat fee to withdraw funds by check or to bank account. Moneybookers does limit income received by accounts to the thousands of dollars.

The moneybookers.com domain was created 18 June 2001. As of August 2005, they claim over one million users and over 700 million processed transactions. Moneybookers is a subsidiary of Gatcombe Park Ventures Limited.

Accepted currencies

As of August 2005, Moneybookers accepts the following currencies:

Australian dollar
Baht
Canadian dollar
Danish krone
Euro
Forint
Hong Kong dollar
Koruna (both Czech and Slovak)
Kroon
Lat
Lev
New Taiwan dollar
New Zealand dollar
Norwegian krone
Pound sterling
Rand
Ringgit
Romanian Leu
Shekel
Singapore dollar
South Korean won
Swedish krona
Swiss franc
Tolar
US dollar
Yen
ZBoty

Neteller

Neteller PLC is a publicly traded company on the London Stock Exchange Alternative Investment Market.

An Isle of Man based E-wallet service that enables customers to load, withdraw and transfer funds online, Neteller was founded in 1999. The company was a relatively small online payment processor until PayPal's similar service stopped taking transactions from [online gambling](#) sites in 2002.

Neteller's initial public offering was in April 2004. By the end of 2005 its stock price had increased approximately 300%. Revenue for the third quarter of 2005 more than doubled to US\$45million compared to a year earlier, while pre-tax profits increased from \$13million to \$26million. Neteller's market cap at the end of 2005 was over US\$1.5billion.

Wire Transfer

A **wire transfer** is an electronic transfer of funds.

Wire transfers can be done by a simple bank account transfer, or by a transfer of cash at a cash office.

History

Wire transfers have been available since the advent of the telegraph, when the sender, at one bank, would communicate by telegraph (wire) the amount of money to be given to another person.

Wire transfer companies

One of the largest companies that offers wire transfer is Western Union (minimum of £25, \$15). Its wire transfer network has caused much controversy due to the anonymity of the service.

Modern usage

In modern times, the word *wire transfer* or *bank transfer* (sometimes combined as *bank wire transfer*) is used for domestic or international transactions where no cash or cheque exchange is involved, but the account balance is directly (electronically) transferred from one bank account to the other.

Regulation

Bank transfer is the most common payment method in Europe, with several million transactions done each day. While in 2002 the European Commission has regulated the fees banks may charge between Eurozone countries down to the domestic level, international wire transfers can be quite expensive.

Security features

However, wire transfer, done bank-to-bank, is considered the safest international payment method. Both account holders must have a proven identity, and there is no possibility of a chargeback.

Caution: risks in non-bank transfers

Wire transfers done through cash offices, however, are usually unsafe and are not recommended for international trade.

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